



#### STAVANGER

Phone +47 51 64 86 00  
Fax +47 51 64 86 01  
24h +47 90 19 51 55  
E-mail: [post@mento.no](mailto:post@mento.no)

#### BERGEN

Phone +47 56 31 54 00  
Fax +47 56 31 54 01  
24h +47 48 17 05 45  
E-mail: [post@mento.no](mailto:post@mento.no)

#### KRISTIANSUND

Phone +47 71 58 07 00  
Fax +47 71 58 28 90  
24h +47 99 45 40 41  
E-mail: [post@mento.no](mailto:post@mento.no)

#### HAMMERFEST

Phone +47 78 41 31 40  
Fax +47 78 41 31 41  
24h +47 78 41 31 40  
E-mail: [post@mento.no](mailto:post@mento.no)

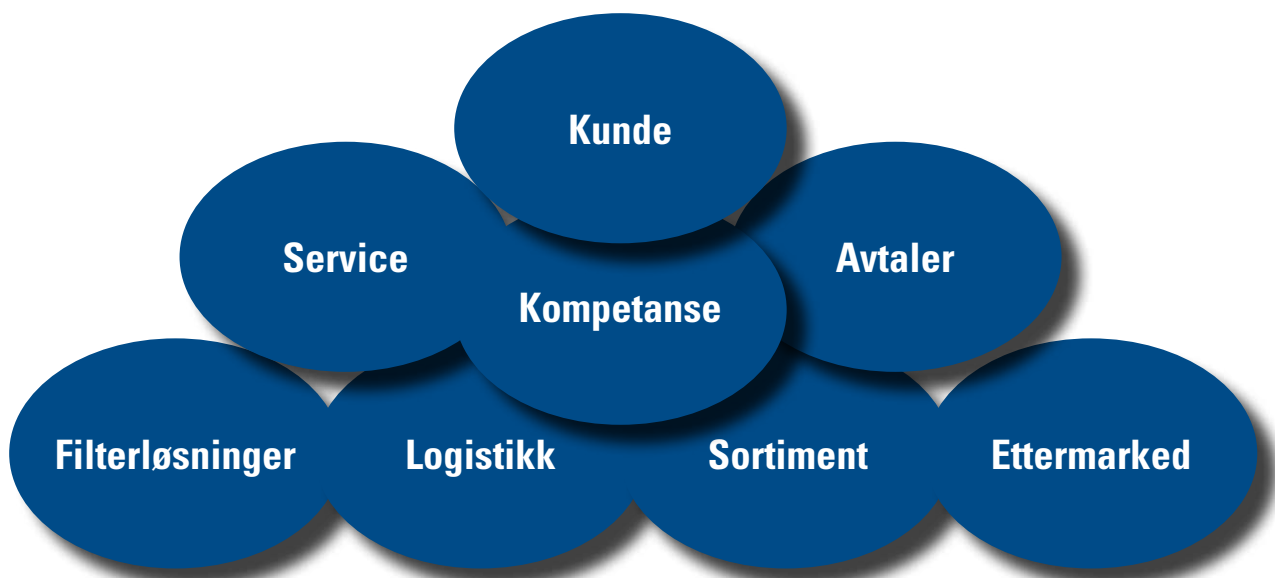
# PRODUKTKATALOG FILTER

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# Total Filtration Management

Mento AS er en totalleverandør av filterprodukter. Vårt hovedfokus er på originalproduserte kvalitetsløsninger for sluttbruker. Godkjent kvalitetssikringssystem sikrer alle sider ved leveransene.



## Kunde

Mento AS er en salgsorganisasjon som daglig assisterer kunder med informasjon og optimale løsninger innen filtrering. Vårt mål er å skape merverdi og god lønnsomhet for alle parter.

## Service

Dette er den daglige kontakten du har med Mento AS - fra personene som besvarer forespørsler og telefon, til de som sikrer at rett vare kommer frem til rett tid og sted.

## Avtaler

Sikrer og forenkler kundens tilgang på filter. Langtids rammeavtaler med mange store og viktige aktører i markedet, samt lagerhold, skaper sikkerhet hos våre kunder om at Mento AS vil være den beste samarbeidspartner også i fremtiden.

## Kompetanse

Mento AS har vært en viktig leverandør i markedet for filter siden 1971. I denne perioden har vi tilegnet oss unik erfaring og god kontakt med produsenter verden over. Mento holder jevnlig kurs for å sette fokus på viktigheten av filtrering.

## Logistikk

Mento AS har høy fokus på logistikk. Dette skal sikre rask og korrekt håndtering av varer som går inn og ut av våre varehus.

## Filterløsninger

Mento AS er en total samarbeidspartner av filter løsninger i eksisterende og nye prosjekt. Med vår egen prosjekt avdeling og utvalgte kvalitets leverandører sikrer vi optimale teknologiske løsninger.

## Ettermarked

Mento er en av Skandinavias største leverandør av filter med over firehundrede merkenavn i vårt sortimang. Vi har siden 1971 etablert et godt utbygd logistikknettverk mot produsenter og lokalt lagerhold hos Mento avdelingene i Norge. Dette sikrer våre kunder rask respons, riktig vare til konkurransedyktige betingelser.

## Sortiment

Mento har med vår erfaring, database og kontaktnett mulighet til å fremskaffe alle typer filtre og løsninger. Hvis ikke original vare kan fremskaffes vil en alternativ løsning som oftest kunne tilbys.

## Mento har over 400 forskjellige filterfabrikat, dette er et utvalg



A	D	I	R
AAF	DANFOSS	INGERSOLL-RAND	RACOR
AC DELCO	DELBAG	INDUFIL	ROLLS ROYCE
ALLISON	DEMAG	INTERNORMEN	S
ALTAIR	DEUTZ	IVECO	SABB
AMA	DETROIT	K	SCANIA
AMAZON	DOLLINGER	KNECHT	SCHROEDER
AMC	DOMNICK HUNTER	KOOMEY	SEPAR
AMETEC	DONALDSON	L	SHAFFER
ARGO	E	LINDE	SIEMENS
ATLAS COPCO	EUROMATE	M	SOFIMA
B	EUROPAFILTER	MAHLE	STAUFF
BALDWIN	EPPENSTEINER	MANN	T
BALSTON	F	MECMAN	TOYOTA
BARDEX	FACET	MITSUBISHI	U
BAUER	FAIREY ARLON	MOTORCRAFT	UCC
BENNEX	FARR	MP	ULTRAFILTER
BETEX	FAUDI	MTU/MERCEDES	V
BOLL KIRCH	FILTERITE	N	VELCON
BOSCH	FINN	NISSAN	VICKERS
BUTECH	FIRTOP	NORCLEAN	VILEDON
C	FLEETGUARD	NORGREN	VOKES
CAMFIL	FRAM	NORMANN	VOLVO
CARDEV	G	NYTAL	W
CATERPILLAR	GENERAL ELECTRIC	P	WARTSILA
CAV	GFSA	PALL	WILDEN
CJC	H	PARKER	WILKERSON
COOPER	HANKINSON	PECO	WORTHINGTON
CROSBY	HATZ	PERKINS	Y
CROSLAND	HEADLINE	PLENTY	YANMAR
CUMMINS	HENGST	POROUS MEDIA	
CUNO	HILCO	PREMABERG	
	HYDAC	PURIFINER	
	HYTREX	PUROLATOR	





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## HYDRAULIKKFILTER

- Høytrykksfilter
- Mellomtrykksfilter
- Lavtrykksfilter
- Returfilter
- Pustefilter for tank
- "Off-Line" filter



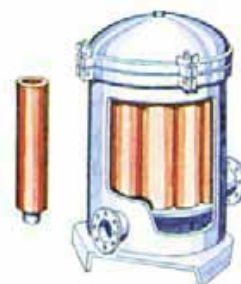
## MOTORFILTER

- Luftfilter
- Drivstofffilter
- Oljefilter
- Transmisjonsfilter
- Veivhusfilter



## VÆSKEFILTER

- Filterhus fra 1/2" til 48"
- Materialkvalitet og tykkelse etter spesifikasjoner
- Filterelement for alle væsketyper
- Plisserte element
- Spunnet element
- Aktivt kull element
- Membranfiltrering
- BAG-filter



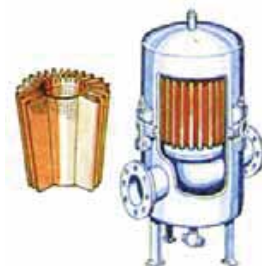
## AUTOMATFILTER

- For væskefiltrering
- Selvrensende strainer
- Automatisk disc-membranfilter
- Filtrering ned til 10 micron
- Sentrifugefilter
- Størrelse og materialkvalitet etter spesifikasjoner



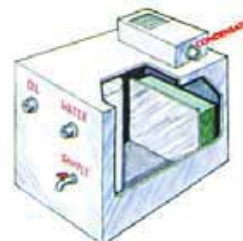
## GASSFILTER

- Filter for alle typer gasser
- Flertrinns separator for fjerning av oljedamp og vann fra gasser
- Coalescerløsninger



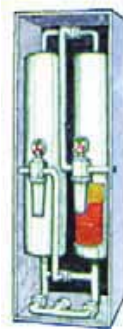
## OLJE- OG VANNUTSKILLERE

- Separerer olje fra vann
- Møter høyeste miljøkrav - 5 ppm



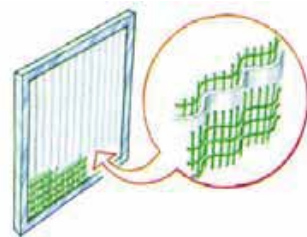
## TRYKKLUFTFILTER OG TØRKERE

- |   |  |
|---|--|
| <ul style="list-style-type: none"><li>• Høyeffekt-/kjøletørkere</li><li>• Trykkluft- og gassfiltrering</li><li>• Instrumentluftfilter</li><li>• Steril luftfiltrering</li><li>• Pusteluftfiltrering</li><li>• Membranfiltrering</li></ul> | <p>Fjerner:</p> <ul style="list-style-type: none"><li>• Olje- og vannaerosoler</li><li>• karbondioksid og sure gasser</li><li>• Faste partikler</li><li>• Oljedamp, lukt og smaksstoffer</li><li>• Karbonmonosid</li></ul> |
|---|--|



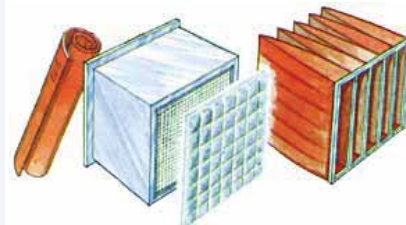
## MENTO FILTER

- |   |   |
|---|---|
| <ul style="list-style-type: none"><li>• Forfilter til ventilasjon og gassturbin</li><li>• Spesielt beregnet til forfilter luft</li><li>• Filtreringsgrad; EU2 til EU5</li></ul> | <ul style="list-style-type: none"><li>• Rustfrie rammer</li><li>• Produsert etter mål</li></ul> |
|---|---|



## VENTILASJON- OG LUFTFILTER

- |  |   |
|--|---|
| <ul style="list-style-type: none"><li>• Bag/tube filter</li><li>• Posefilter</li><li>• Prefilter</li></ul> | <ul style="list-style-type: none"><li>• Kompaktfilter</li><li>• Filterduk, kan tilskjæres</li></ul> |
|--|---|



## OLJERENSEUTSTYR

- |  |  |
|--|--|
| <ul style="list-style-type: none"><li>• "Off-Line" renseunit</li><li>• Transportabel eller fastmontert løsning</li><li>• Kan leveres med utstyr som partikkelteler, Flowmeter, luft- eller elektrisk pumpe</li></ul> | <ul style="list-style-type: none"><li>• Fjerner fritt og bundet vann</li><li>• Fjerner fri og oppløst luft</li></ul> |
|--|--|





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# 1.0

# Væskefiltrering

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# Hydraulikk- og oljefiltrering

## Hydraulikk filtrering – bruksområder:

### Returfilter lavtrykk

- ofte tankmontert

### Sideløps/bypassfilter

- brukes for å rense oljen uavhengig av om systemet opererer.  
"Nyrefunksjon"

### Pustefilter

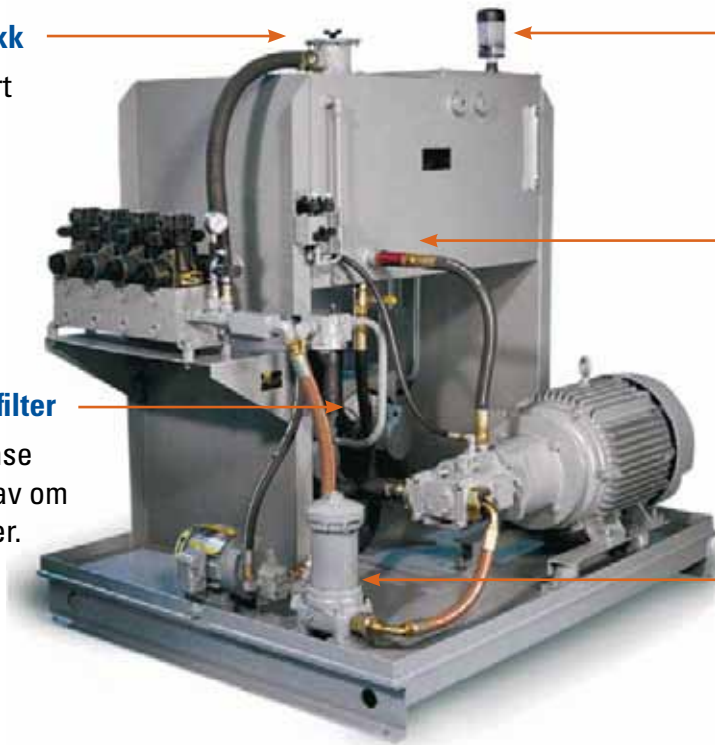
- hindrer vann og urenheter i å komme inn via tankluften

### Suge filter element

- beskytter pumpen

### Trykkfilter

De viktigste filtrene i systemet – beskytter kritiske komponenter



**1.** Inntil 80% av alle mekaniske driftsavbrudd i hydraulikkanlegg kan tilbakeføres til urenheter i oljen.

**2.** Bruk av originale filterelementer er viktigste parameter for å sikre optimal levetid for anlegget.

**3.** Andre viktige parameter å ta hensyn til ved valg:

- Flow
- Arbeidstrykk
- Filtreringsgrad
- Trykkfall
- Oljetype
- Arbeidstemperatur
- Rørdimensjon
- Tilslutning
- Materialvalg
- Ex/Atex hensyn

## Returfilter og trykkfilter

- Lavtrykkfilter opptil 20 bar
- Mellomtrykkfilter 20-120 bar
- Høytrykkfilter 120 bar og oppover

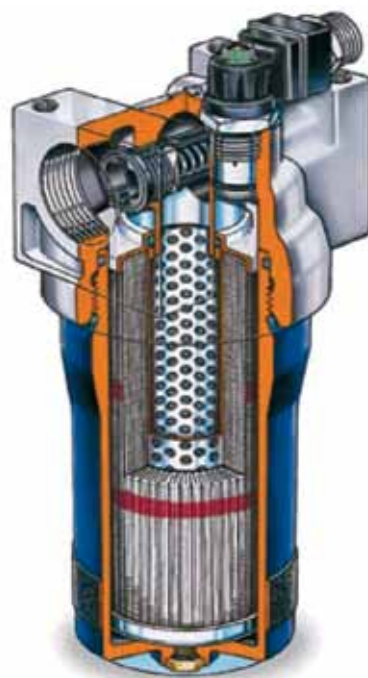
### Trykkfilter

Funksjon: Er montert etter hovedpumpe og skal beskytte systemkomponentene. Disse filtrene er normalt hydraulikksystemets viktigste filter. Designet for fullt systemtrykk og er utstyrt med høykvalitets filter element. Kan være utstyrt med "by-pass" og trykkfalls indikator.

### Returfilter

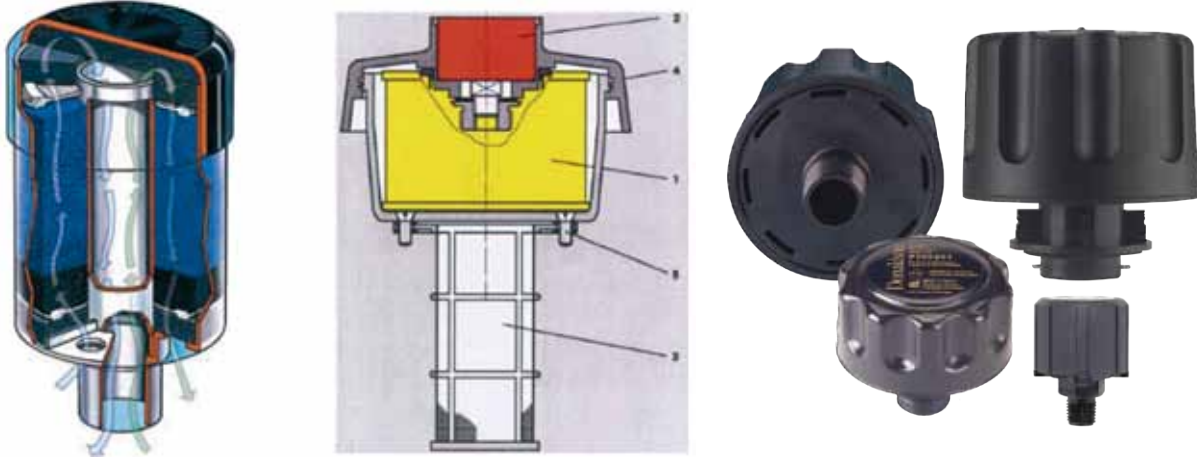
Funksjon: Returstrømmen fra hydraulikksystemet blir filtrert før retur til reservoar. Hjelper til å holde oppe kvaliteten på oljen og forlenger levetiden på trykkfiltrene. Er oftest mye billigere enn trykkfiltrene, og er ikke designet for fullt designtrykk. Blir vanligvis levert tankmontert men kan også leveres linjemontert.

**Filteringsgrad ned til 1 micron.**  
**Duplexløsninger med og uten bypass.**  
**Elektrisk og visuell indikator.**



## Pustefilter

**Funksjon:** står montert på tank/reservoir for å hindre smuss og fuktighet fra å komme inn i tanken. Finnes i ulike alternativer.



## Bypassfilter

Hvis olje i et system er blitt forurenset av vann eller partikler kan det være en løsning å behandle oljen i stedet for å kjøpe ny. Oftest har oljen like god eller bedre kvalitet som ny etter behandling med filterenhet eller purifier. Når disse rensemetodene brukes kan systemet være i drift når behandlingen gjøres, og man får også behandlet den oljen som til enhver tid er ute i systemet. Kontakt oss – enten det gjelder kjøp eller leie av utstyr for å rense olje – så skal vi finne den beste løsningen for deres behov.





# 1.1.1

# Lavtrykks- filterhus

opp til 20 bar





## Spin-On Filter MF/MFD

up to 300 l/min, up to 8 bar



### 1. TECHNICAL SPECIFICATIONS

#### 1.1 FILTER HOUSING

##### Construction

The filter consists of a filter head with built-in bypass valve and a screw-on filter cartridge.

Standard equipment:

- with 1.7 bar bypass valve

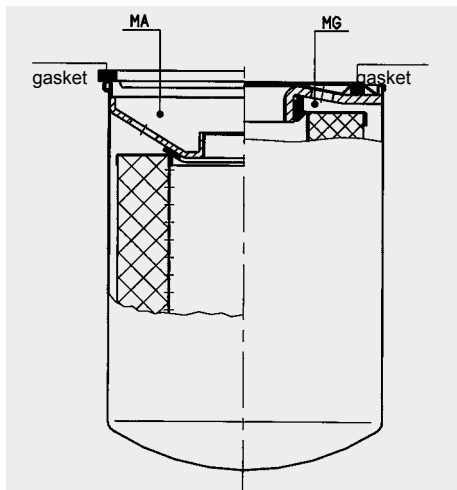
#### 1.2 FILTER CARTRIDGES

MG: Cartridge connection thread to  
I SO 228

Sealing on inside

( note: the seal on the  
0080 MA cartridge is also  
on the inside!)

MA: C cartridge connection UN thread  
Sealing on the outside



#### 1.3 FILTER SPECIFICATIONS

Nominal pressure	8 bar
Temperature range -	30 °C to +100 °C
Pressure setting of clogging indicator: $\Delta p_a$	Type E: 0 to 16 bar Type F: 1.5 or 2 bar Type UE: 0 to -1.0 bar Type UF: -0.2 bar
Type of clogging indicator	VMF (return line pressure indicator)
Material of filter head A	luminium
Material of filter cartridge	Sheet steel
Cracking pressure of bypass valve	1.7 bar (standard)

#### 1.4 SEALS

NBR (= Perbunan)

#### 1.5 MOUNTING

As inline filter

#### 1.6 SPECIAL MODELS AND ACCESSORIES

without bypass valve or with other  
bypass cracking pressures

#### 1.7 SPARE PARTS

See Original Spare Parts List

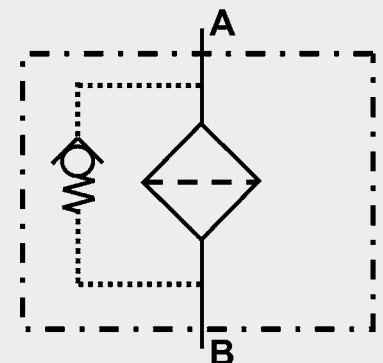
#### 1.8 CERTIFICATES AND APPROVALS

On request

#### 1.9 COMPATIBILITY WITH HYDRAULIC FLUIDS ISO 2943

- Hydraulic oils H to HLPD DIN 51524
- Lubrication oils DIN 51517, API, ACEA, DIN 51515, ISO 6743
- Compressor oils DIN 51506
- Biodegradable operating fluids VDMA 24568 HETG, HEES, HEPG
- Non-flam operating fluids HFA, HFB, HFC and HFD
- Operating fluids with high water content (>50% water content) on request

#### Symbol for hydraulic systems



## 2. MODEL CODE (ALSO ORDER EXAMPLE)

### 2.1 COMPLETE FILTER

#### Filter type

MF (all sizes; 1 filter cartridge)  
MFD (size 160 and 180; 2 filter cartridges)

#### Filter material of element

BN Betamicon®  
P Paper (only MF 80 and MF/MFD 160)

#### Size of filter or cartridge

MF: 80, 160, 180  
MFD: 160, 180

#### Operating pressure

A 8 bar

#### Type of cartridge connection

G thread to ISO 228 (G1¼)  
U UN thread (1-12 UNF, 1½ x 16 UN-2B)

#### Type and size of port

Type	Port	Filter size		
		80	160	180
C	G ¾	MF	–	–
E	G1 ¼	–	MF	MF
F	G1 ½	–	MFD	MFD

#### Filtration rate in µm

BN 3, 5, 10, 20  
P 10

#### Type of clogging indicator

A steel blanking plug in indicator port  
E pressure gauge  
F pressure switch  
UE vacuum gauge  
UF vacuum switch

pressure indicators  
vacuum indicators

for other clogging indicators  
see brochure no. E 7.050../..

#### Type code

0  
1 - 8 see point 2.4

#### Modification number

X the latest version is always supplied

#### Supplementary details

B. bypass cracking pressure (e.g.: B0.2 = 0.2 bar; B0.25 = 0.25 bar; B2 = 2 bar)  
KB without bypass valve

### 2.2 REPLACEMENT CARTRIDGE

#### Size

0080, 0160, 0180

#### Type

MG for filters with cartridge connection G (= thread to ISO 228);  
paper filter material only (exception: MF 80: 20 BN)  
MA for filters with cartridge connection U (= UN thread)

#### Filtration rate in µm

BN 003, 005, 010, 020 (for MF 80: MA = all filtration ratings; MG = 20 µm)  
P 010

#### Filter material

BN, P

### 2.3 REPLACEMENT CLOGGING INDICATOR

#### Type

VMF return line pressure indicator

#### Pressure setting

2 (see point 1.3)

#### Type of clogging indicator

F (see point 2.1)

#### Modification number

X the latest version is always supplied

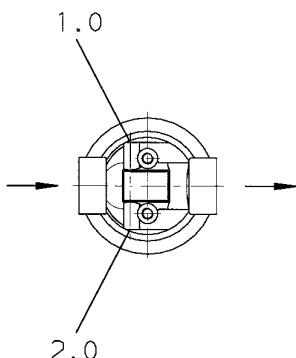
MF BN 160 A U E 10 F 1 X /-KB

0160 MA 010 BN

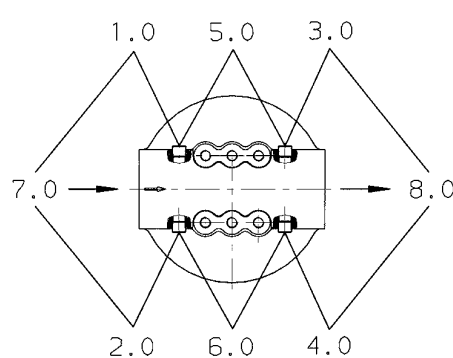
VMF 2 F . X

## 2.4 MOUNTING POSITION OF THE CLOGGING INDICATOR

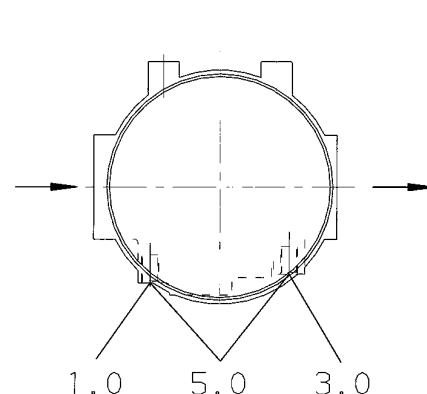
MF 80



MF 160/180



MFD 160/180



### For MF filters

Type code	Mounting position of the clogging indicator	Application of complete filter	Type of indicator	Specials
0.X	Without clogging indicator, blanking plug in all indicator ports			–
1.X	Filter inlet: on left	Return line filter	Pressure indicator	–
2.X	Filter inlet: on right	Return line filter	Pressure indicator	–
3.X	Filter outlet: on left	Suction filter	Vacuum indicator	Only for sizes 160 and 180, on versions: - with bypass cracking pressure 0.2 bar (.../-B0.2) - without bypass valve (.../-KB)
4.X	Filter outlet: on right	Suction filter	Vacuum indicator	Only for sizes 160 and 180, on versions: - with bypass cracking pressure 0.2 bar (.../-B0.2) - without bypass valve (.../-KB)
5.X	Filter inlet & outlet: on left	Pressure filter	Pressure and vacuum indicator	–
6.X	Filter inlet & outlet: on right	Pressure filter	Pressure and vacuum indicator	–
7.X	Filter inlet: on right & left	Return line filter	Pressure indicator	–
8.X	Filter outlet: on right & left	Suction filter	Vacuum indicator	Only for sizes 160 and 180, on versions: - with bypass cracking pressure 0.2 bar (.../-B0.2) - without bypass valve (.../-KB)

### For MFD filters

Type code	Mounting position of the clogging indicator	Application of complete filter	Type of indicator	Specials
0.X	Without clogging indicator, blanking plug in all indicator ports			–
1.X	Filter inlet: on right	Return line filter	Pressure indicator	–
3.X	Filter outlet: on right	Suction filter	Vacuum indicator	Only on versions: - with bypass cracking pressure 0.2 bar (.../-B0.2) - without bypass valve (.../-KB)
5.X	Filter inlet & outlet: on right	Pressure filter	Pressure & vacuum indicator	

## 2.5 CARTRIDGE SELECTION TABLE

### Filter type MF

Size 80	Cartridge
MF P 80 AGC 10 ...	0080 MG 010 P
MF BN 80 AUC 10 ...	0080 MA 010 BN
MF BN 80 AGC 20 ...	0080 MG 020 BN
Size 160	Cartridge
MF P 160 AGE 10...	0160 MG 010 P
MF BN 160 AUE 3...	0160 MA 003 BN
MF BN 160 AUE 5...	0160 MA 005 BN
MF BN 160 AUE 10...	0160 MA 010 BN
MF BN 160 AUE 20...	0160 MA 020 BN
Size 180	Cartridge
MF BN 180 AUE 3...	0180 MA 003 BN
MF BN 180 AUE 5...	0180 MA 005 BN
MF BN 180 AUE 10...	0180 MA 010 BN
MF BN 180 AUE 20...	0180 MA 020 BN

### Filter type MFD

Size 80	Cartridge
–	not available
–	not available
–	not available
Size 160	Cartridge
MFD P 160 AGF 10...	0160 MG 010 P
MFD BN 160 AUF 3...	0160 MA 003 BN
MFD BN 160 AUF 5...	0160 MA 005 BN
MFD BN 160 AUF 10...	0160 MA 010 BN
MFD BN 160 AUF 20...	0160 MA 020 BN
Size 180	Cartridge
MFD BN 180 AUF 3...	0180 MA 003 BN
MFD BN 180 AUF 5...	0180 MA 005 BN
MFD BN 180 AUF 10...	0180 MA 010 BN
MFD BN 180 AUF 20...	0180 MA 020 BN

## 2.6 CHANGING THE CARTRIDGE

### Filter cartridge type MG:

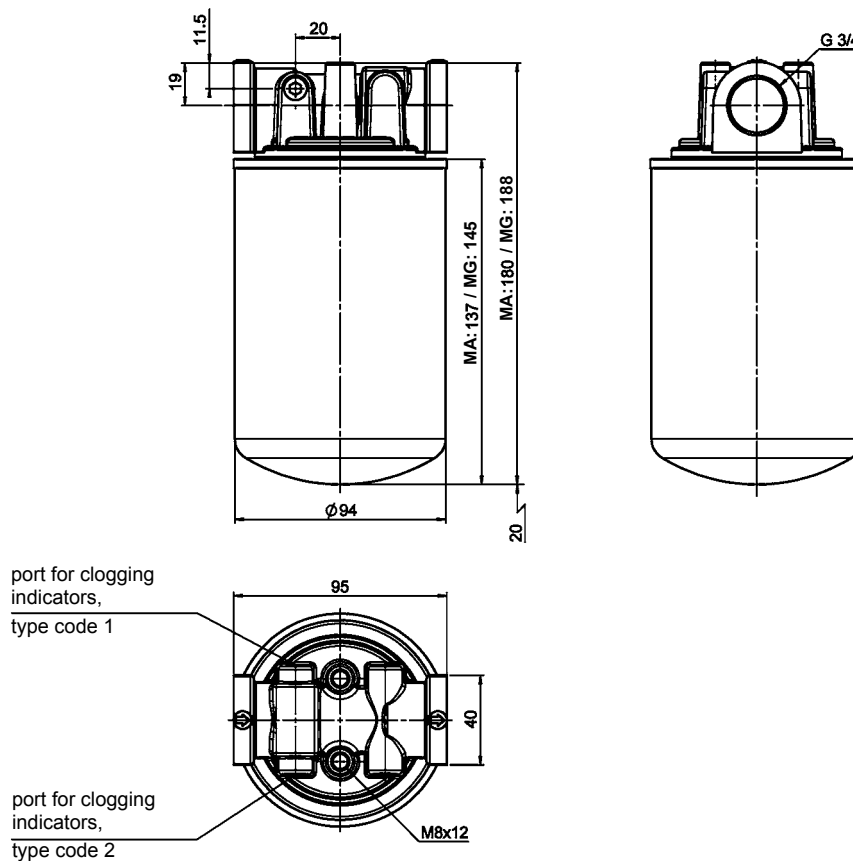
Unscrew filter cartridge (using a strap wrench, if necessary). Lubricate seal on the new cartridge. Screw in new cartridge until contact is made with the sealing surface. Then hand-tighten. Check for leakage and tighten further if necessary.

### Filter cartridge type MA:

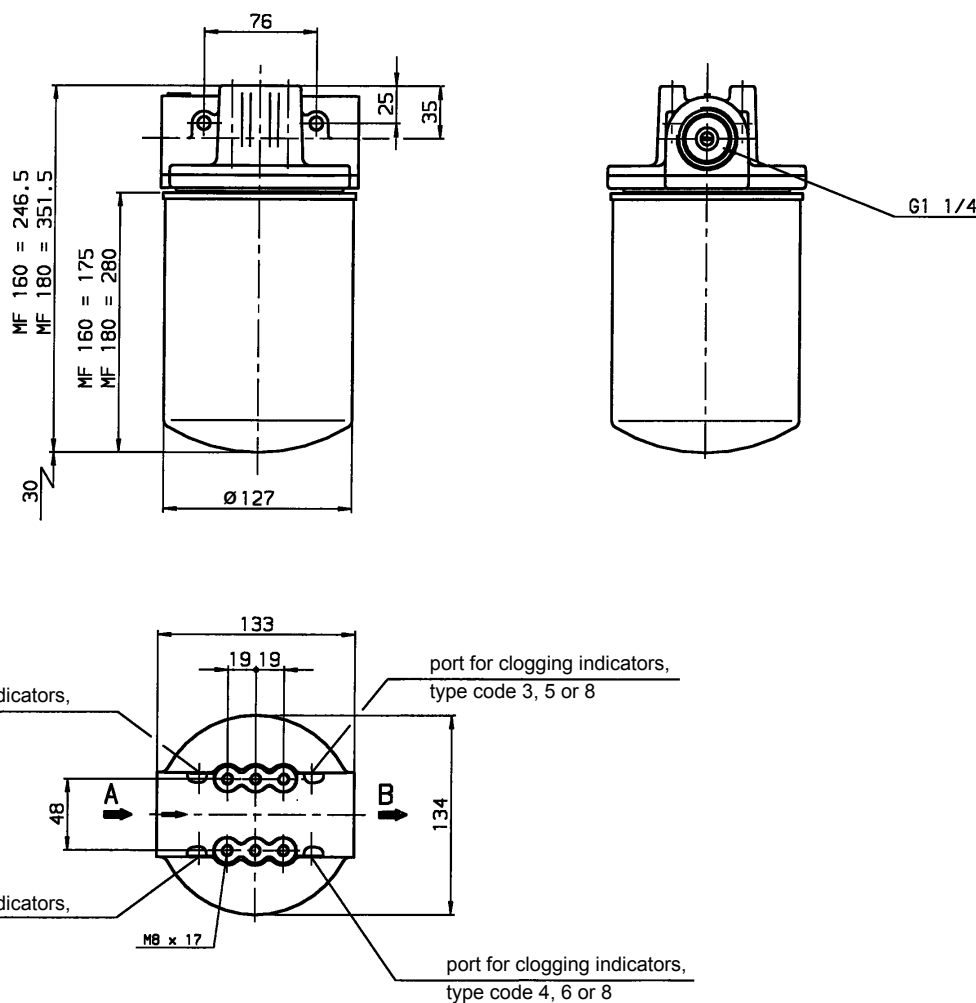
Unscrew filter cartridge (using a strap wrench, if necessary). Lubricate new seal and insert it into the filter head. Screw in new cartridge until contact is made with the sealing surface. Then hand-tighten. Check for leakage and tighten further if necessary.

## 4. DIMENSIONS

MF 80



MF 160/180





# Spin-on Filters

## Maxiflow Series

### MAX 360 l/min - 10 bar



## Specification

**Maximum working pressure:**

**Filter head material:**

**Filter bowl material:**

**Seal material:**

**Operating temperature range:**

**Bypass:**

**Fluids:**

**Element media:**

### Preferred Series MXA

10 bar

Aluminium LM24

Steel

Nitrile

-30°C to +90°C

Return line 1.05 bar

Suction line 0.17 bar

No bypass option

Mineral oils

Microglass III media

Cellulose media

### PS Series

10 bar

Aluminium alloy

Steel

Buna (nitrile)

-30°C to +110°C

Return line 1.5 bar

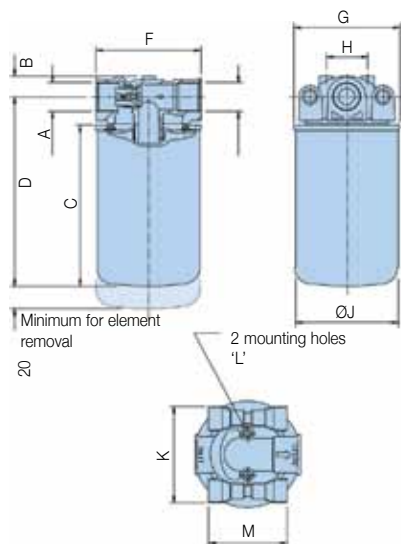
Suction line 0.10 bar

No bypass option

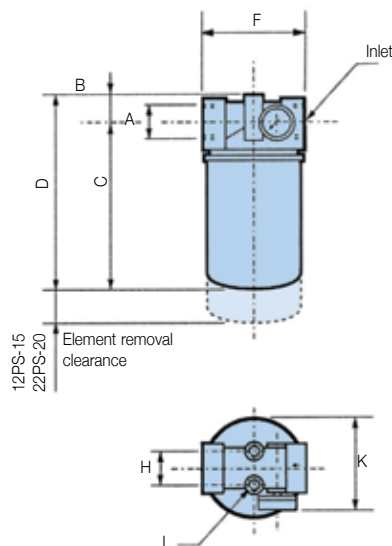
Mineral oils

## Installation Details

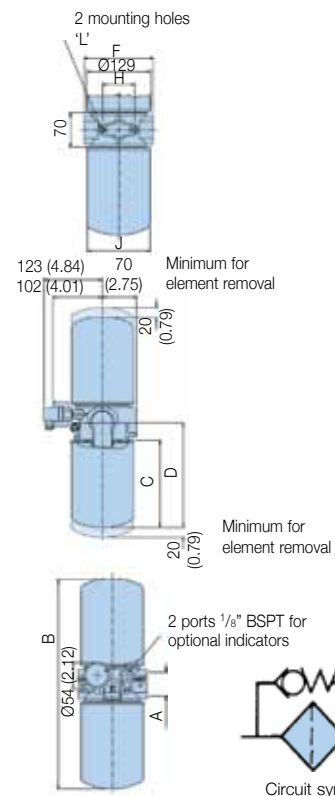
### MXA.8/MXA.9\*\*\*



### 12PS/22PS



### Size 3 MXA.7\*\*\*



### Filter selection

To select the correct filter use the appropriate pressure drop graphs. For details and an example of how to select the correct filter, see next page.

Type	A	B	C	D	F	G	H	J	K	L	M
<b>MXA.8</b>	G <sup>3/4</sup>	19 (0.75)	147 (5.79)	173 (6.81)	95 (3.74)	97 (3.82)	38 (1.49)	94 (3.7)	88 (3.46)	M8 x 1.25 x 16 full depth	72 (2.83)
<b>12PS</b>		22 (0.86)	165 (6.49)	187 (7.36)	95 (3.74)	N/A	38 (1.49)	93 (3.66)	107 (4.21)		N/A
<b>MXA.9</b>	G1 <sup>1/4</sup>	30 (1.18)	179 (7.04)	213 (8.38)	133 (5.24)	129 (5.08)	50 (1.97)	127 (5.0)	130 (5.12)		72 (2.83)
<b>22PS</b>		28 (1.10)	208 (8.19)	236 (9.29)	133 (5.23)	N/A	50 (1.97)	130 (5.12)	N/A	M10 x 1.5	N/A
<b>MXA.7</b>	G1 <sup>1/2</sup>	430 (16.93)	179 (7.05)	214 (8.42)	140 (5.51)	N/A	65 (2.56)	127 (5.0)	N/A		N/A

## Full Flow Filters for Suction or Return

### Maxiflow Filter

## PRESSURE DROP CURVES

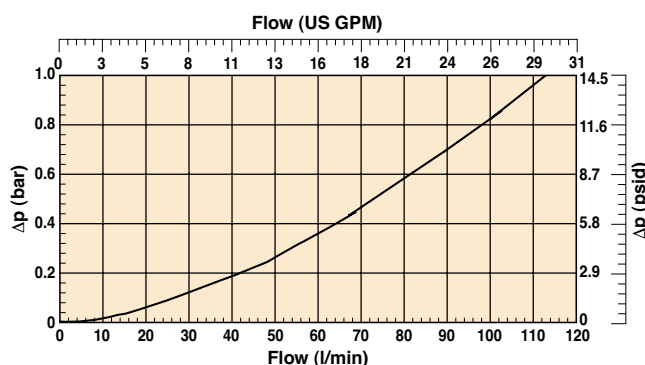
The recommended level of the initial pressure drop for low pressure filters is max 0.5 bar.

If the medium used has a viscosity different from 30 cSt, pressure drop over the filter can be estimated as follows :-

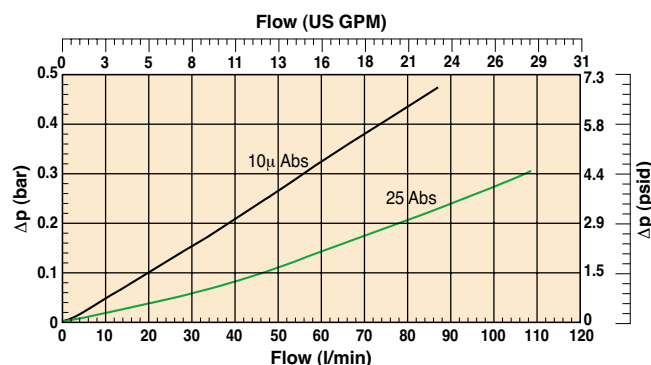
$$\Delta p = (\Delta p_{30} \times \text{viscosity of medium used}) / 30 \text{ cSt}$$

### Size 1 Maxiflow (MXA.8\*\*\* Series) and 12PS Series

#### Filter Housing

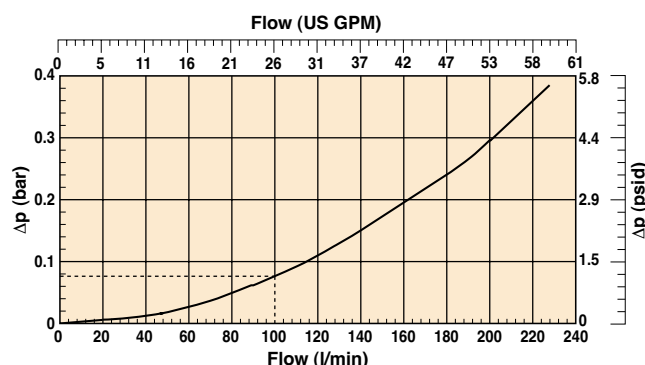


#### Filter Element

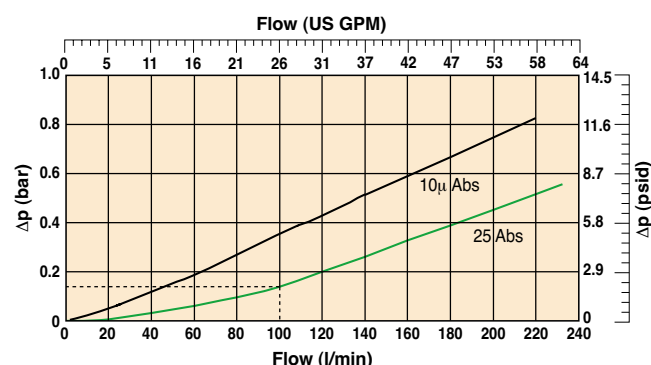


### Size 2 Maxiflow (MXA.9\*\*\* Series) and 22PS Series

#### Filter Housing

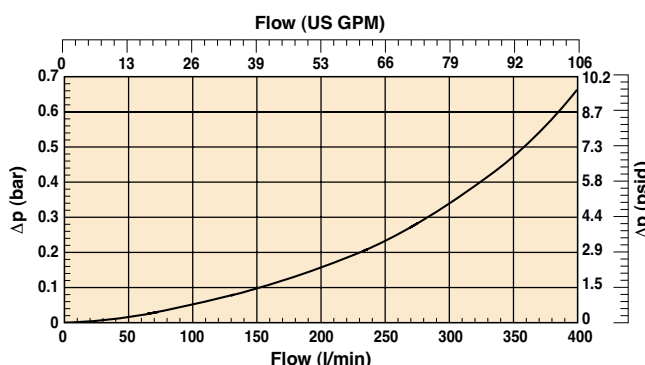


#### Filter Element

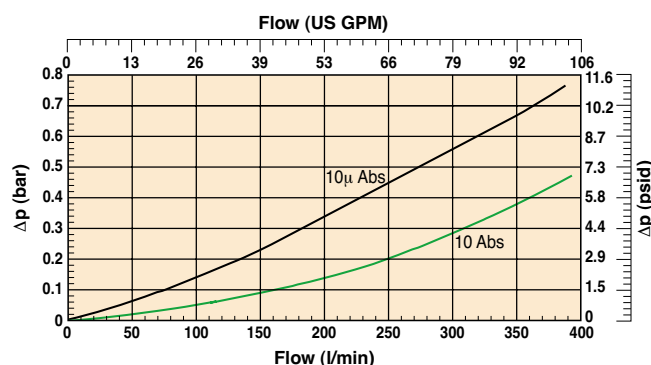


### Size 3 Maxiflow (MXA.7\*\*\* Series)

#### Filter Housing



#### Filter Element



Note: All above data is calculated at 30cSt Rel density 0.856.

# Full Flow Filters for Suction or Return

*Maxiflow Filter*

## PREFERRED PRODUCTS TABLE

Type	Part Number	Description	MAOP (bar)	Flow (l/min)	Media Rating	Ports	Replacement Element
------	-------------	-------------	------------	--------------	--------------	-------	---------------------

### MXA.8\*\*\* & 12PS Return Line Filters

MXA	MXA.8551.424	Assembly with Bypass & Dual Visual Indicators	7	65	10	G <sup>3</sup> / <sub>4</sub>	MXR.8550	
PS	12PS-10BT-V1-R-2-B	Assembly with Bypass & Gauge Type Visual Indicator	10		Absolute		926501	
MXA	MXA.8511.424	Assembly with Bypass & Dual Visual Indicators	7	70	25 Abs	G <sup>3</sup> / <sub>4</sub>	MX.1518.4.10 x 4	
PS	12PS-10CT-V1-R-2-B	Assembly with Bypass & Gauge Type Visual Indicator	10		10		Nominal	921166
	12PS-10CT-E2-R-2-B	Assembly with Bypass & Electrical Pressure Indicator						
	12PS-10CT-P-R-2-B	Assembly with Bypass & No Indicator						

### MXA.8\*\*\* & 12PS Suction Line Filters

MXA	MXA.8551.223	Assembly with Bypass & Dual Visual Indicators	7	20	25 Abs	G <sup>3</sup> / <sub>4</sub>	MX.1518.4.10 x 4*
PS	12PS-10CT-V1-S-4-B	Assembly with Bypass & Gauge Type Visual Indicator	10		10 Nom		921166
MXA	MXA.8551.023	Assembly without Bypass, with Dual Visual Indicators	7		25 Abs		MX.1518.4.10 x 4*
PS	12PS-10CT-V1-SX-4-B	Assembly without Bypass, with Gauge Type Visual Indicator	10		10 Nom		921166

### MXA.9\*\*\* & 22PS Return Line Filters

MXA	MXA.9561.424	Assembly with Bypass & Dual Visual Indicators	7	30	3 Absolute	G1 <sup>1</sup> / <sub>4</sub>	MXR.9560
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#### 3 Micron Absolute Filtration for Off-Line System Clean Up

The maxiflow 3 micron absolute elements are ideal for off-line clean up applications. These can be specified for the 9\*\*\* and 7\*\*\* series return filters.

MXA	MXA.9551.424	Assembly with Bypass & Dual Visual Indicators	7	160	10 Absolute	G1 <sup>1</sup> / <sub>4</sub>	MXR.9550
PS	22PS-10BT-V1-R-2-D	Assembly with Bypass & Gauge Type Visual Indicator	10	180			926503
PS	22PS-10BT-E2-R-2-D	Assembly with Bypass & Electrical Pressure Indicator		180			

MXA	MXA.9511.424	Assembly with Bypass & Dual Visual Indicators	7	160	25 Abs	G1 <sup>1</sup> / <sub>4</sub>	MX.1591.4.10 x 4
PS	22PS-10CT-V1-R-2-D	Assembly with Bypass & Gauge Type Visual Indicator	10	180	10 Nominal		926502
PS	22PS-10CT-E2-R-2-D	Assembly with Bypass & Electrical Pressure Indicator					
PS	22PS-10CT-P-R-2-D	Assembly with Bypass & No Indicator					

### MXA.9\*\*\* & 22PS Suction Line Filters

MXA	MXA.9511.223	Assembly with Bypass & Dual Visual Indicators	7	20	25 Abs	G1 <sup>1</sup> / <sub>4</sub>	MX.1591.4.10 x 4*
PS	22PS-10CT-V2-S-4-D	Assembly with Bypass & Gauge Type Visual Indicator	10		10 Nom		926502
MXA	MXA.9511.023	Assembly without Bypass, with Dual Visual Indicators	7	48	25 Abs		MX.1591.4.10 x 4*
PS	22PS-10CT-P-SX-4-D	Assembly without Bypass, with Gauge Type Visual Indicator	10		10 Nom		926502

### MXA.7\*\*\*

MXA	MXA.7551.424	Assembly with Bypass & Visual Indicators	7	300	10 Absolute	G1 <sup>1</sup> / <sub>2</sub>	MXR.9550 (2)
MXA	MXA.7511.424	Assembly with Bypass & Visual Indicators	7	350	25 Abs	G1 <sup>1</sup> / <sub>2</sub>	MX.1591.4.10 x 4*

### MXA.7\*\*\* Suction Line Filters

MXA	MXA.7551.223	Assembly with Bypass & Visual Indicators	7	80	10 Absolute	G1 <sup>1</sup> / <sub>2</sub>	MXR.9550 (2)
	MXA.7551.023	Assembly without Bypass with Visual Indicators					
MXA	MXA.7511.223	Assembly with Bypass & Visual Indicators	7	80	25 Absolute	G1 <sup>1</sup> / <sub>2</sub>	MX.1591.4.10 x 4* (2)
	MXA.7511.023	Assembly without Bypass with Visual Indicators					

The Maxiflow Series 7\*\*\* filters can be specified with additional visual or electrical indicators. Please contact Parker Filtration for details.

Note: Elements marked with an asterisk (\*) are only available in 4 element packs.

## Spin-On Hydraulic Protection



Racor water-absorbing hydraulic filters feature a specially designed media that traps solid contaminants like dirt and rust and damaging water. As the element fills with water and plugging occurs, flow slows and the head goes into a bypass mode. Water-absorbing spin-on hydraulic filters are available for virtually any application and are available in a 10-micron rating. To make monitoring easy, Racor offers a range of heads with pressure restriction gauges, including large diameter heads with standard, color-coded bar gauges.

### Elements

#### Low-Pressure

*Filtration applications for return lines and other low-pressure fluid circuits.*

Part No.	IN HW3510	IN HW5710	IN HW51110
Flow Rate	15 gpm / 57 lpm	50 gpm / 190 lpm	50 gpm / 190 lpm
Threads	1" - 12	1 1/2" - 16	1 1/2" - 16
Dimensions	3.7D x 5.5L	5.0D x 7.0L	5.0D x 11.0L
Pressure	100 PSI / 690 kPa	100 PSI / 690 kPa	100 PSI / 690 kPa

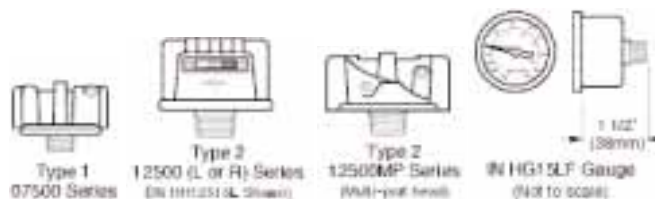
See chart below for mounting head information.

#### High-Pressure

*Filtration applications for pressure locations within the fluid circuit.*

Part No.	HP60077	HP60080	HP60083	HP60086
Flow Rate	20 gpm	20 gpm	50 gpm	50 gpm
Length	Standard	Extended	Standard	Extended
Pressure	3000 PSI / 20,690 kPa	3000 PSI / 20,690 kPa	3000 PSI / 20,690 kPa	3000 PSI / 20,690 kPa

Consult factory for ordering assistance.



### Mounting Heads

Part No.	Head Type	Port Size	Center Thread	By-pass Setting <sup>(PSID)</sup>	Filter Application
Maximum flow rate for the heads below is 15 gpm / 900 gph and up to 175 PSI / 12.1 bar					
IN HH 75503	1	3/4" NPT	1"-12 UN	3	Use with 3510 filter
IN HH 07515	1	3/4" NPT	1"-12 UN	15	
IN HH 07525	1	3/4" NPT	1"-12 UN	25	
Maximum flow rate for the heads below is 50 gpm / 3000 gph and up to 175 PSI / 12.1 bar					
IN HH 12515 <sup>1</sup>	2	1 1/4" NPT	1 1/2"-16 UN	15	Use with 5710 and 51110 filters
IN HH 12525 <sup>1</sup>	2	1 1/4" NPT	1 1/2"-16 UN	25	
IN HH 12515MP <sup>2</sup>	2	1 1/4" NPT	1 1/2"-16 UN	15	
IN HH 12525MP <sup>2</sup>	2	1 1/4" NPT	1 1/2"-16 UN	25	

<sup>1</sup>Specify L or R. L provides the standard color-coded bar restriction gauge on the side of the head with the flow direction going to your left. R has the flow going to the right. See center head illustration, above.

<sup>2</sup>MP signifies a multi-port head. The multi-ports are for an optional in-head gauge, such as the IN HG15LF liquid filled, 1.5" diameter, compound pressure/vacuum gauge (1/8" NPT). See right illustration, above.

## Water Absorbing Media

Part Number	Micron Rating	Center Thread	Filter Dia.	Filter Length	Media Area	Capacity Solids	Capacity H2O	Typical Beta Rating
IN HW 3510	10	1"-12	3.7" / 9.4 cm	5.5" / 14 cm	190 in <sup>2</sup> / 1226 cm <sup>2</sup>	13.68 g	247 ml	10 / 18
IN HW 3510A	10	1 1/8"-16	3.7" / 9.4 cm	5.5" / 14 cm	190 in <sup>2</sup> / 1226 cm <sup>2</sup>	13.68 g	247 ml	10 / 18
IN HW 3525	25	1"-12	3.7" / 9.4 cm	5.5" / 14 cm	190 in <sup>2</sup> / 1226 cm <sup>2</sup>	15.58 g	247 ml	14 / 23
IN HW 3810	10	1"-12	3.7" / 9.4 cm	8" / 20.3 cm	350 in <sup>2</sup> / 2258 cm <sup>2</sup>	25.2 g	455 ml	10 / 18
IN HW 3825	25	1"-12	3.7" / 9.4 cm	8" / 20.3 cm	350 in <sup>2</sup> / 2258 cm <sup>2</sup>	28.7 g	455 ml	14 / 23
IN HW 5710	10	1 1/2"-16	5" / 12.7 cm	7" / 17.8 cm	383 in <sup>2</sup> / 2470 cm <sup>2</sup>	27.58 g	498 ml	10 / 18
IN HW 5725	25	1 1/2"-16	5" / 12.7 cm	7" / 17.8 cm	383 in <sup>2</sup> / 2470 cm <sup>2</sup>	31.40 g	498 ml	14 / 23
IN HW 51110	10	1 1/2"-16	5" / 12.7 cm	11" / 27.9 cm	689 in <sup>2</sup> / 4444 cm <sup>2</sup>	49.61 g	896 ml	10 / 18
IN HW 51125	25	1 1/2"-16	5" / 12.7 cm	11" / 27.9 cm	689 in <sup>2</sup> / 4444 cm <sup>2</sup>	56.50 g	896 ml	14 / 23
IN HW 33RB	10	3/4"-16	3" / 7.6 cm	3" / 7.6 cm	60 in <sup>2</sup> / 387 cm <sup>2</sup>	4.32 g	78 ml	10 / 18
IN HW 35RB	10	1"-12	3.8" / 9.7 cm	5" / 12.7 cm	190 in <sup>2</sup> / 1226 cm <sup>2</sup>	13.68 g	247 ml	14 / 23
IN HW 57RM	10	1 1/2"-16	5" / 12.7 cm	7" / 17.8 cm	383 in <sup>2</sup> / 2470 cm <sup>2</sup>	27.58 g	498 ml	10 / 18

Maximum operating pressure:100 psi / 1207 kPa.

## Silicone Cellulose Media

Part Number	Micron Rating	Center Thread	Filter Dia.	Filter Length	Media Area	Capacity Solids	Capacity H2O	Typical Beta Rating
IN HC 3510	10	1"-12	3.7" / 9.4 cm	5.5" / 14 cm	480 in <sup>2</sup> / 3096 cm <sup>2</sup>	9.04 g	N/A	10 / 18
IN HC 3525	25	1"-12	3.7" / 9.4 cm	5.5" / 14 cm	450 in <sup>2</sup> / 2903 cm <sup>2</sup>	12.54 g	N/A	25 / 48
IN HC 3810	10	1"-12	3.7" / 9.5 cm	8" / 20.3 cm	878 in <sup>2</sup> / 5663 cm <sup>2</sup>	16.68 g	N/A	10 / 18
IN HC 3825	25	1"-12	3.7" / 9.6 cm	9" / 20.3 cm	826 in <sup>2</sup> / 5328 cm <sup>2</sup>	23.13 g	N/A	25 / 48
IN HC 5710	10	1 1/2"-16	5" / 12.7 cm	7" / 17.8 cm	950 in <sup>2</sup> / 6128 cm <sup>2</sup>	18.05 g	N/A	10 / 18
IN HC 5725	25	1 1/2"-16	5" / 12.7 cm	7" / 17.8 cm	900 in <sup>2</sup> / 5805 cm <sup>2</sup>	25.2 g	N/A	25 / 48
IN HC 51110	10	1 1/2"-16	5" / 12.7 cm	11" / 27.9 cm	1710 in <sup>2</sup> / 11030 cm <sup>2</sup>	32.49 g	N/A	10 / 18
IN HC 51125	25	1 1/2"-16	5" / 12.7 cm	11" / 27.9 cm	1620 in <sup>2</sup> / 10449 cm <sup>2</sup>	45.36 g	N/A	25 / 48

### Micro Glass Media

IN HMG 3606	6	1 1/2"-16	3.75" / 9.5 cm	6" / 15.2 cm	240 in <sup>2</sup> / 1548 cm <sup>2</sup>	16.32 g	N/A	3 / 6 / 07
IN HM 5710	10	1 1/2"-16	5" / 12.7 cm	7" / 17.8 cm	510 in <sup>2</sup> / 3290 cm <sup>2</sup>	56.1 g	N/A	9 / 18 / 19

### Stainless Steel Media

IN HSSM57	100	1 1/2"-16	5" / 12.7 cm	7" / 17.8 cm	200 in <sup>2</sup> / 1290 cm <sup>2</sup>	N/A	N/A	144
IN HSSM511	100	1 1/2"-16	5" / 12.7 cm	11" / 27.9 cm	315 in <sup>2</sup> / 2032 cm <sup>2</sup>	N/A	N/A	144

Maximum operating pressure:100 psi / 1207 kPa.

## Filtration Specifications

Part No.	HP60077	HP60080	HP60083	HP60086
Flow Rate	20 gpm / 76 lpm	20 gpm / 76 lpm	50 gpm / 189 lpm	50 gpm / 189 lpm
Length	Standard	Extended	Standard	Extended
Pressure	3000 psi / 210 bar	3000 psi / 207 bar	3000 psi / 207 bar	3000 psi / 207 bar



# 1.1.2

# Mellomtrykks- filter

20 - 120 bar



## HMK 05 - DURAMAX

### In-Line Medium Pressure Filters up to 24 bar with spin-on element

#### Technical Data

- Operating pressure at 2,4 MPa (24 bar).
- Static pressure testing at 5,5 MPa (55 bar).
- By-pass valve setting 170 kPa (1,7 bar) differential per ISO 3968.
- Available by-pass valve with setting 350 kPa (3,5 bar) differential.
- Operating temperature -20 +120°C (-20 +107° C for cellulose).
- Compatibility with hydraulic fluids per ISO 2943.
- Flow rate and pressure drop per ISO 3968 with oil kinematic viscosity 30 cSt at 40°C and density 0,875 kg/dm<sup>3</sup>.
- Ports threaded per ISO 228/1.
- Tapped predisposition for electrical indicator.



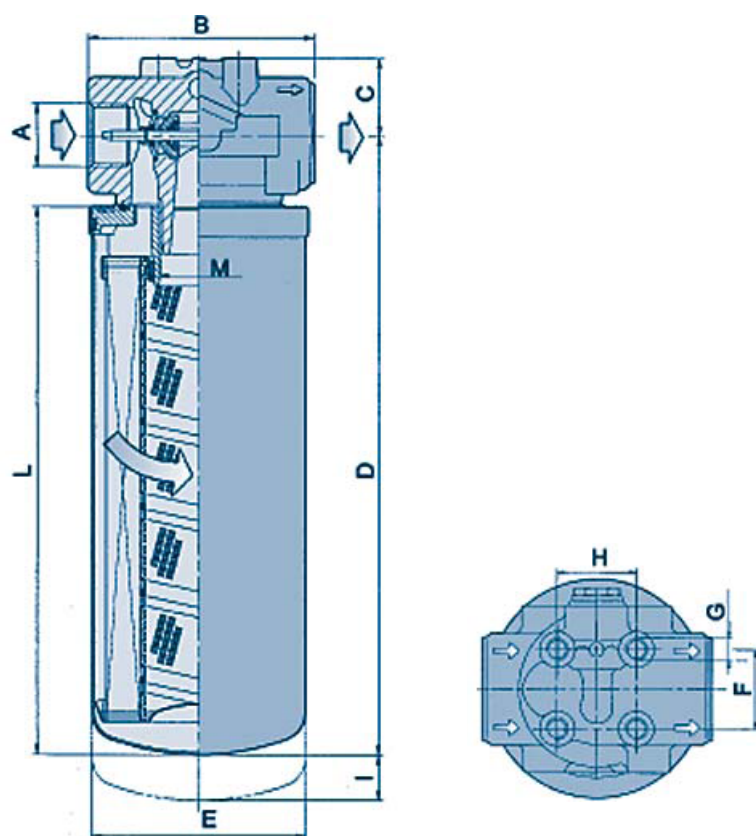
#### Filter Elements

- Cellulose paper 10 micron.
- Synteq® synthetic media with 5-10-16-22-40 micron.
- Heavy duty steel can with die cast baffle for added strength and a special head-to-spin-on O-ring seal.
- Element collapse resistance 1,4 MPa (14 bar) per ISO 2941.
- Spin-on burst resistance 5,5 MPa (55 kPa)
- Element pressure fatigue strength per NFPA T3.10.17 0 - 2,4 MPa (0 - 24 bar) for 100.000 cycles.
- Available intermediate length spin-on L=200 mm.

# HMK 05 - DURAMAX

## In-Line Medium Pressure Filters up to 24 bar with spin-on element

### Specifications



	#20			#9			#4			/02			/01	
	SYNTHETIC MEDIA													
	$\beta_{50(c)}=1000$			$\beta_{23(c)}=1000$			$\beta_{20(c)}=1000$			$\beta_{11(c)}=1000$			$\beta_{8(c)}=1000$	
	FLOW l/min	TYPE	ELEMENT	FLOW l/min	TYPE	ELEMENT	FLOW l/min	TYPE	ELEMENT	ELEMENT	FLOW l/min	TYPE	ELEMENT	
200	K053123 HMK 513/3	P165672 K 513/3	180	K053125 HMK 513/03	P165569 K 513/03	170	K053126 HMK 513/02	P165659 K 513/02	P176779	160	K053127 HMK 513/01	P165675 K 513/01		
200	K053144 HMK 513/3	P165672 K 513/3	180	K053142 HMK 513/03	P165569 K 513/03	170	K053141 HMK 513/02	P165659 K 513/02	P176779	160	K053140 HMK 513/01	P165675 K 513/01		
200	K053148 HMK 513/3	P165672 K 513/3	180	K053146 HMK 513/03	P165569 K 513/03	170	K053132 HMK 513/02	P165659 K 513/02	P176779	160	K053145 HMK 513/01	P165675 K 513/01		

COMPLETE ASSY WITH INDICATOR P162400 INCLUDED

COMPLETE ASSY WITH INDICATOR P162696 INCLUDED

## HMK 04 - DURAMAX

### In-Line Medium Pressure Filters up to 34 bar with spin-on element



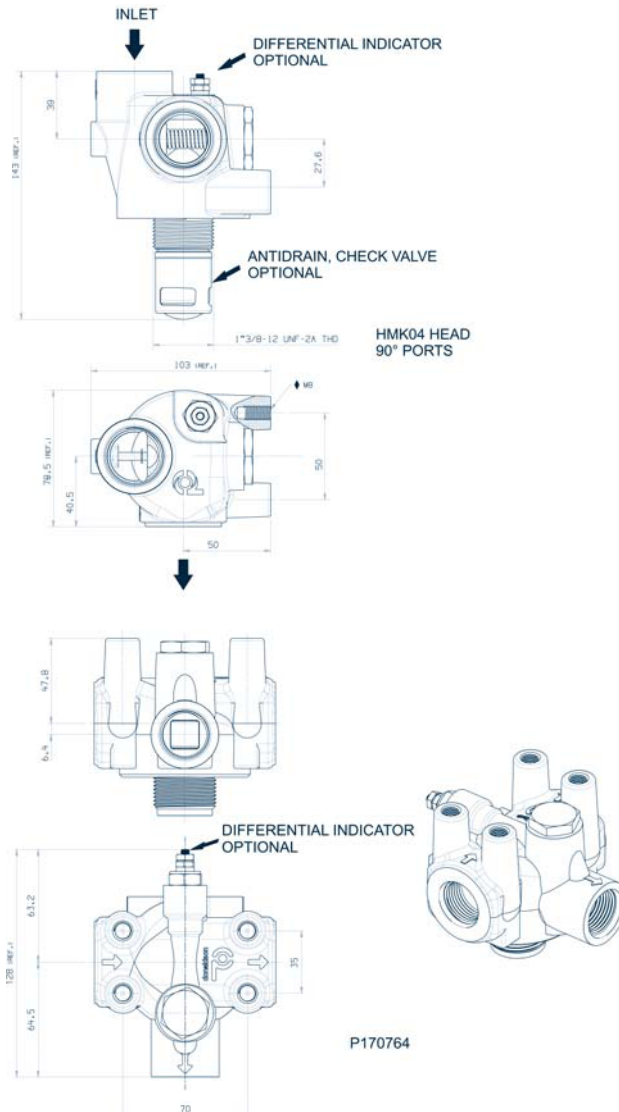
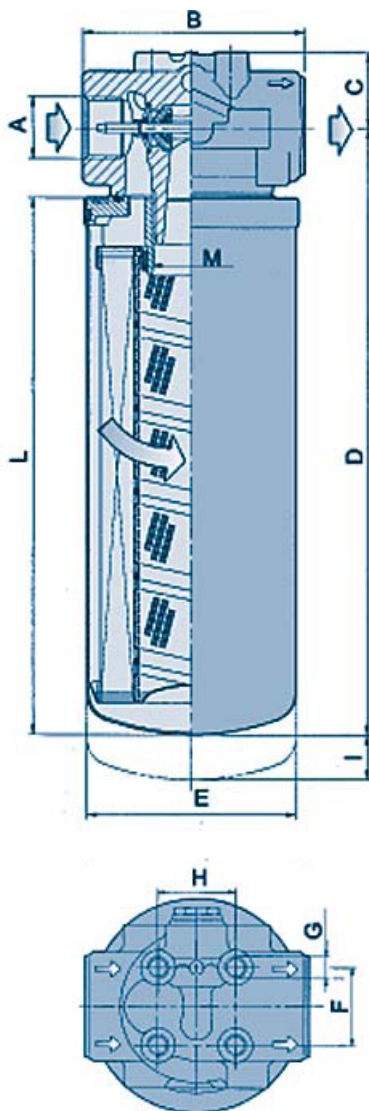
#### Technical Data

- Operating pressure at 3,45 MPa (34,5 bar).
- Static pressure testing at 6,9 MPa (69 bar).
- By-pass valve setting 170 kPa (1,7 bar) differential per ISO 3968.
- Available by-pass valve with setting 350 kPa (3,5 bar) differential.
- Operating temperature -20 +120°C (-20 +107° C for cellulose).
- Compatibility with hydraulic fluids per ISO 2943.
- Flow rate and pressure drop per ISO 3968 with oil kinematic viscosity 30 cSt at 40°C and density 0,875 kg/dm<sup>3</sup>.
- Ports threaded per ISO 228/1.
- Tapped predisposition for electrical indicator.

#### Filter Elements

- Cellulose paper 10 micron.
- Synteq® synthetic media with 5-10-16-22-40 micron.
- Heavy duty steel can with die cast baffle for added strength and a special head-to-spin-on O-ring seal.
- Element collapse resistance 2 MPa (20 bar) per ISO 2941.
- Spin-on burst resistance 6,9 MPa (69 bar)
- Element pressure fatigue strength per NFPA T3.10.17 0 - 3,45 MPa (0 - 34,5 bar) for 100.000 cycles.
- Available intermediate length spin-on L=180 mm.

## Specifications



	#20			#7			#4		/02	#01		
	SYNTHETIC MEDIA											
	$\beta_{50(c)}=1000$			$\beta_{23(c)}=1000$			$\beta_{20(c)}=1000$		$\beta_{11(c)}=1000$	$\beta_{8(c)}=1000$		
FLOW l/min	TYPE	ELEMENT	FLOW l/min	TYPE	ELEMENT	TYPE	ELEMENT	ELEMENT	FLOW l/min	TYPE	ELEMENT	
120	K045739 HMK 405/3	P165335 K 405/3	110	K045743 HMK 405/03	P164381 K 405/03	K045745 HMK 405/02	P164375 K 405/02	P761064	100	K045747 HMK 405/01	P165354 K 405/01	
120	K045795 HMK 405/3	P165335 K 405/3	110	K045793 HMK 405/03	P164381 K 405/03	K045792 HMK 405/02	P164375 K 405/02	P761064	100	K045791 HMK 405/01	P165354 K 405/01	
120	K045805 HMK 405/3	P165335 K 405/3	110	K045803 HMK 405/03	P164381 K 405/03	K045802 HMK 405/02	P164375 K 405/02	P761064	100	K045801 HMK 405/01	P165354 K 405/01	
140	K045740 HMK 409/3	P165338 K 409/3	130	K045744 HMK 409/03	P164384 K 409/03	K045746 HMK 409/02	P164378 K 409/02	P173133	120	K045748 HMK 409/01	P165332 K 409/01	
140	K045800 HMK 409/3	P165338 K 409/3	130	K045798 HMK 409/03	P164384 K 409/03	K045797 HMK 409/02	P164378 K 409/02	P173133	120	K045796 HMK 409/01	P165332 K 409/01	
140	K045810 HMK 409/3	P165338 K 409/3	130	K045808 HMK 409/03	P164384 K 409/03	K045807 HMK 409/02	P164378 K 409/02	P173133	120	K045806 HMK 409/01	P165332 K 409/01	

COMPLETE ASSY WITH INDICATOR P162400 INCLUDED

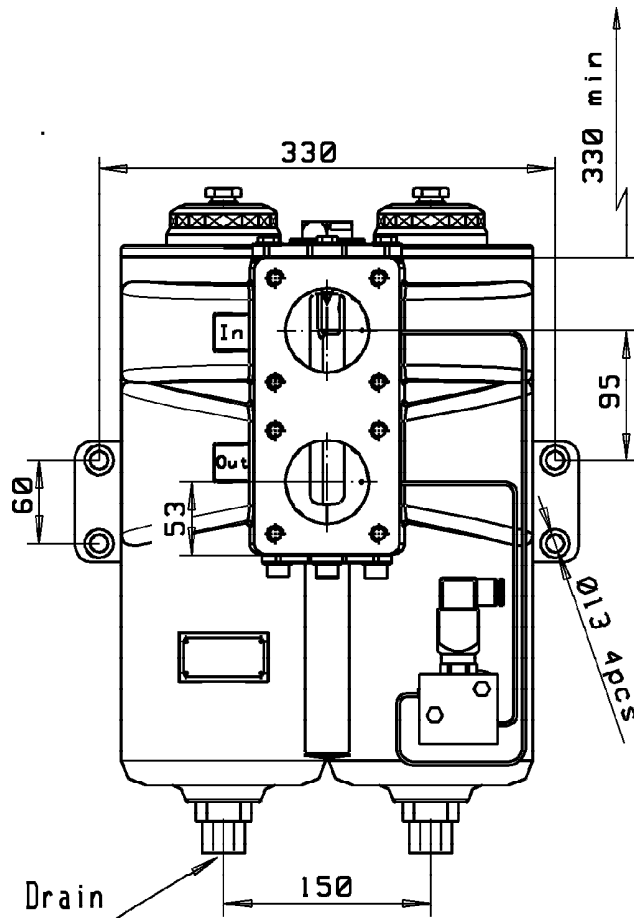
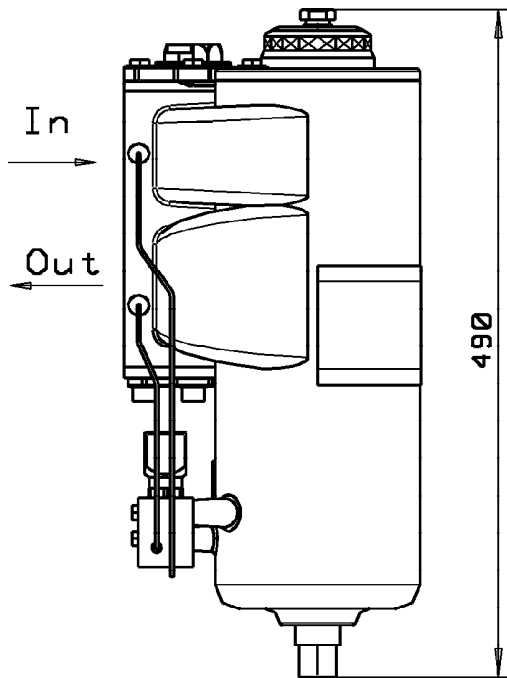
COMPLETE ASSY WITH INDICATOR P162696 INCLUDED



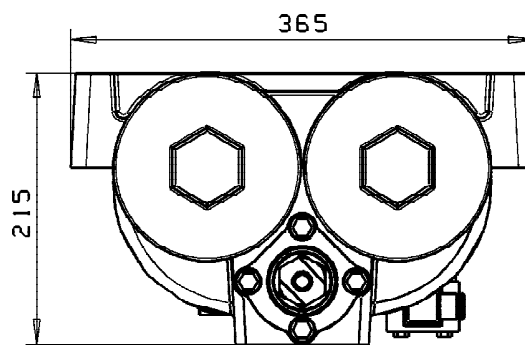
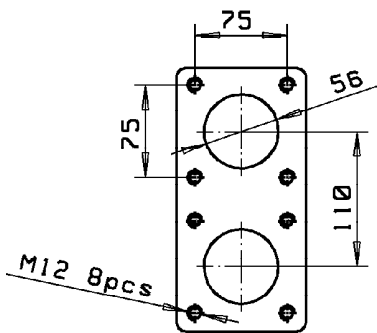
## Duplex Filters FF2089



## Duplex Filter FF2089



Alternative SAE 2" 3000 Psi



### Technical data:

Max operating pressure 40 bar

Test pressure 60 bar

Max flow rate 350 l / min (30cSt)

Weight ~65 kg

Housing material EN GJS 450-10 (Cast iron)

Filter element FC1092

Seal material Viton

Safety device to prevent cover opening under pressure

### Applications:

Diesel fuel oil systems

Heavy fuel oil systems

Propulsion lubricating oil systems

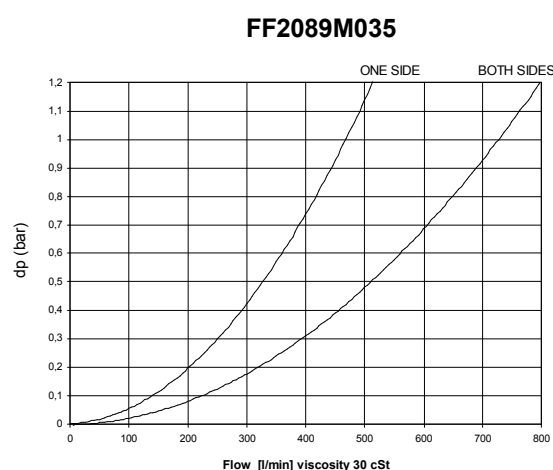
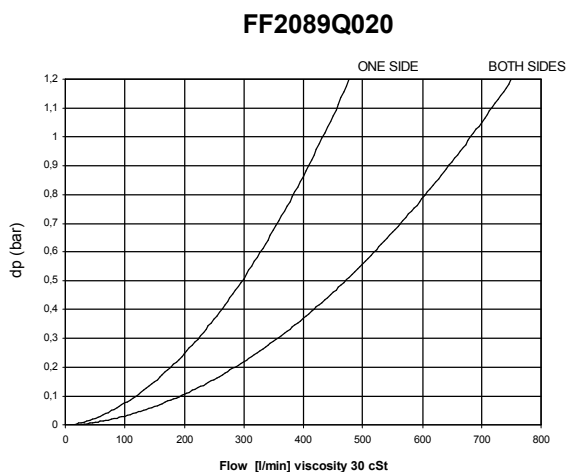
Marine hydraulic systems

## Pressure drop curves for FF2089

The recommended level of the initial pressure drop for this filter is max 0,5 bar.

If the medium used has a viscosity different from 30cSt, pressure drop over the filter can be estimated as follows:

$$dp = (dp_{30} \times \text{viscosity of medium used}) / 30 \text{ cSt}$$



## Ordering instructions

Complete Filter: **FF2089**  **VS20**

Filter Element: **FC1092**  **VS**

Indicator: **FPC**  **VM**

Table 1

DEGREE OF FILTRATION	
Element type	CODE
Glass fiber 20 µm	<b>Q020</b>
Glass fiber 10 µm	<b>Q010</b>
Metal mesh 35 µm	<b>M035</b>

Table 3

MAGNET OPTION	
Magnet pack option	CODE
With magnet pack	<b>M</b>
Without magnet pack	

Table 2

FILTER CONNECTION	
Connection type options	CODE
Square flanges *	<b>XC56</b>
SAE 2" 3000 Psi	<b>DC32</b>

\* Delivered with blind counter flanges

Table 4

INDICATOR BLOCK	
Indicator block options	CODE
With indicator block	<b>INB</b>
Without indicator block	

Table 5

dp INDICATOR	
Indicator type options	CODE
Electric indicator 1,5 bar	<b>T15</b>
Visual indicator 1,5 bar	<b>V15</b>
Electronic indicator 1,5 bar	<b>F15</b>



## Medium Pressure Filters

### 15/40/80CN Series

### MAX 600 l/min - 70 bar



## Specification

### Pressure ratings:

Maximum allowable operating pressure: 70 bar  
Rated fatigue pressure: 56 bar

### Connections:

Several threaded port options available, flange faced ports available on 80CN.

Connection style	Model		
	15CN	40CN	80CN
BSPF(G)	1", 3/4"	1 1/4", 1 1/2"	1 1/2", 2"
SAE	12, 16	16, 24	24, 32
ISO 6149	M27	M33	M42, M48
Metric 3000-M			2"

### Filter housing:

Head material aluminium.  
Bowl material hard anodized aluminium.

### Seal material:

Nitrile or fluoroelastomer.

### Operating temperature range:

-20°C to +100°C.

### Bypass valve & indicator settings:

Table following gives bypass valve and corresponding indicator setting.

Bypass	Indicator
1.7 bar	1.2 bar
3.5 bar	2.5 bar

### Filtration element:

#### Degree of filtration:

Determined by Multipass-test according to ISO 16889, see Box 3 in the product configurator.

### Flow fatigue characteristics:

Filter media is supported so that the optimal fatigue life is achieved (ISO 3724).

### Microglass III (available by request)

Supported with epoxy coated metal wire mesh, end cap material reinforced composite and metal inner core.  
Collapse rating 20 bar (ISO 2941).

### Ecoglass III

Supported with plastic net, end cap material reinforced composite.  
No metal parts. Collapse rating 10 bar (ISO 2941).  
Filter element can only be used together with bowl including Eco-adaptor.  
Note: Ecoglass III contributes to ISO 14001 quality.

### Indicator options:

- visual M3.
- electrical T1.
- electronic F1 (PNP).
- electronic F2 (NPN).

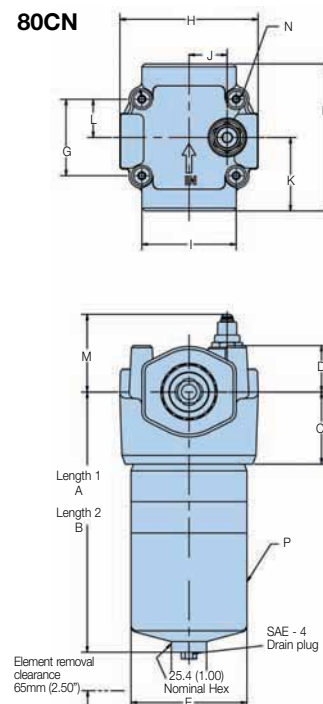
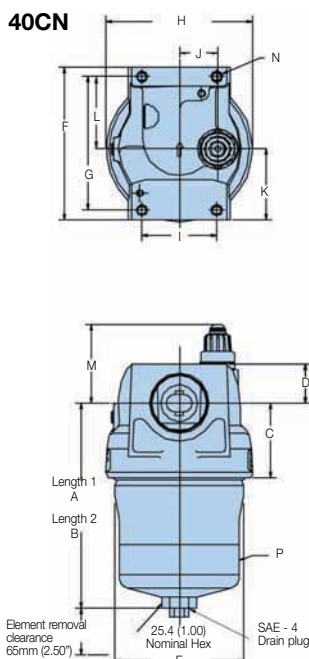
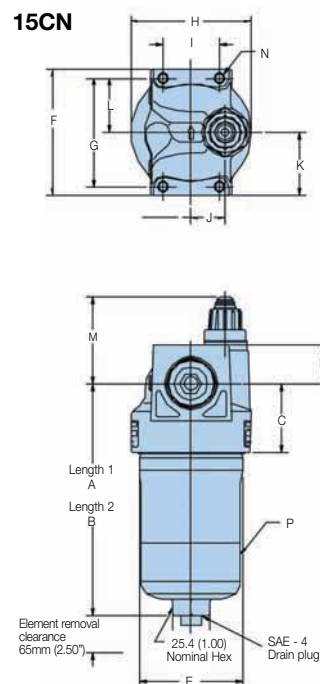
For indicator details see catalogue section 6.

### Weights (kg):

Model	Length 1	Length 2
15CN	1.1	1.6
40CN	2.0	2.5
80CN	5.6	6.9

### Fluid compatibility:

Suitable for use with mineral and vegetable oils, and some synthetic oils. For other fluids, please consult Parker Filtration.



Dimensions in mm (inch)

Model	A	B	C	D	E	F	G	H	I	J	K	L	M*	N	P
15CN	156.6 (6.17)	250.7 (9.87)	46.5 (1.83)	25.4 (1.09)	71.1 (2.80)	85.9 (3.38)	73.2 (2.88)	82.6 (3.25)	38.1 (1.50)	22.9 (0.90)	42.9 (1.69)	36.6 (1.44)	53	4xM6-1.0x7.9 deep	20-27 Nm
40CN	170.8 (6.73)	262.4 (10.33)	62.0 (2.44)	32.6 (1.28)	107.2 (4.22)	127.0 (5.00)	111.0 (4.37)	121.9 (4.80)	62.0 (2.44)	31.8 (1.25)	58.8 (2.32)	60.2 (2.37)	53	4xM8-1.25x13 deep	57-68 Nm
80CN	280.9 (11.06)	401.6 (15.81)	77.7 (3.06)	49.5 (1.95)	124.8 (4.91)	158.7 (6.25)	82.6 (3.25)	151.4 (5.96)	101.6 (4.00)	41.1 (1.62)	79.4 (3.12)	41.3 (1.63)	69	4xM8-1.25x16 deep	80-95 Nm

Note: add 45mm for T and F indicators



## Ordering Information

Standard products table

Part numbers	Supersedes	Flow (l/min)	Model number	Element length	Media rating (µ)	Seals	Indicator	Bypass settings	Ports	Replacement elements
15CN110QEV11KG164	F315CN1R10QETW350C2C219	50	15CN	Length 1	10	Fluoroelastomer	Electrical	3.5 bar	G1"	936700Q
15CN110QEV11KG164	F315CN1R10QEM250C2C219	50	15CN	Length 1	10	Fluoroelastomer	Visual	3.5 bar	G1"	936700Q
15CN120QEV11KG164	F315CN1R20QETW350C2C219	80	15CN	Length 1	20	Fluoroelastomer	Electrical	3.5 bar	G1"	936701Q
15CN120QEV11KG164	F315CN1R20QEM250C2C219	80	15CN	Length 1	20	Fluoroelastomer	Visual	3.5 bar	G1"	936701Q
15CN210QEV11KG164	F315CN2R10QETW350C2C219	80	15CN	Length 2	10	Fluoroelastomer	Electrical	3.5 bar	G1"	936704Q
15CN210QEV11KG164	F315CN2R10QEM250C2C219	80	15CN	Length 2	10	Fluoroelastomer	Visual	3.5 bar	G1"	936704Q
15CN220QEV11KG164	F315CN2R20QETW350C2C219	100	15CN	Length 2	20	Fluoroelastomer	Electrical	3.5 bar	G1"	936705Q
15CN220QEV11KG164	F315CN2R20QEM250C2C219	100	15CN	Length 2	20	Fluoroelastomer	Visual	3.5 bar	G1"	936705Q
40CN105QEV11KG244	F340CN1R05QETW350E2E219	120	40CN	Length 1	5	Fluoroelastomer	Electrical	3.5 bar	G1 1/2"	936707Q
40CN105QEV11KG244	F340CN1R05QEM250E2E219	120	40CN	Length 1	5	Fluoroelastomer	Visual	3.5 bar	G1 1/2"	936707Q
40CN110QEV11KG244	F340CN1R10QETW350E2E219	180	40CN	Length 1	10	Fluoroelastomer	Electrical	3.5 bar	G1 1/2"	936708Q
40CN110QEV11KG244	F340CN1R10QEM250E2E219	180	40CN	Length 1	10	Fluoroelastomer	Visual	3.5 bar	G1 1/2"	936708Q
40CN120QEV11KG244	F340CN1R20QETW350E2E219	260	40CN	Length 1	20	Fluoroelastomer	Electrical	3.5 bar	G1 1/2"	936709Q
40CN120QEV11KG244	F340CN1R20QEM250E2E219	260	40CN	Length 1	20	Fluoroelastomer	Visual	3.5 bar	G1 1/2"	936709Q
40CN205QEV11KG244	F340CN2R05QETW350E2E219	200	40CN	Length 2	5	Fluoroelastomer	Electrical	3.5 bar	G1 1/2"	936711Q
40CN205QEV11KG244	F340CN2R05QEM250E2E219	200	40CN	Length 2	5	Fluoroelastomer	Visual	3.5 bar	G1 1/2"	936711Q
40CN210QEV11KG244	F340CN2R10QETW350E2E219	280	40CN	Length 2	10	Fluoroelastomer	Electrical	3.5 bar	G1 1/2"	936601Q
40CN210QEV11KG244	F340CN2R10QEM250E2E219	280	40CN	Length 2	10	Fluoroelastomer	Visual	3.5 bar	G1 1/2"	936601Q
40CN220QEV11KG244	F340CN2R20QETW350E2E219	320	40CN	Length 2	20	Fluoroelastomer	Electrical	3.5 bar	G1 1/2"	936712Q
40CN220QEV11KG244	F340CN2R20QEM250E2E219	320	40CN	Length 2	20	Fluoroelastomer	Visual	3.5 bar	G1 1/2"	936712Q
80CN110QEV11KG324	F380CN1R10QETW350F2F219	370	80CN	Length 1	10	Fluoroelastomer	Electrical	3.5 bar	G2"	936602Q
80CN110QEV11KG324	F380CN1R10QEM250F2F219	370	80CN	Length 1	10	Fluoroelastomer	Visual	3.5 bar	G2"	936602Q
80CN120QEV11KG324	F380CN1R20QETW350F2F219	420	80CN	Length 1	20	Fluoroelastomer	Electrical	3.5 bar	G2"	936715Q
80CN120QEV11KG324	F380CN1R20QEM250F2F219	420	80CN	Length 1	20	Fluoroelastomer	Visual	3.5 bar	G2"	936715Q
80CN210QEV11KG324	F380CN2R10QETW350F2F219	530	80CN	Length 2	10	Fluoroelastomer	Electrical	3.5 bar	G2"	936718Q
80CN210QEV11KG324	F380CN2R10QEM250F2F219	530	80CN	Length 2	10	Fluoroelastomer	Visual	3.5 bar	G2"	936718Q
80CN220QEV11KG324	F380CN2R20QETW350F2F219	600	80CN	Length 2	20	Fluoroelastomer	Electrical	3.5 bar	G2"	936719Q
80CN220QEV11KG324	F380CN2R20QEM250F2F219	600	80CN	Length 2	20	Fluoroelastomer	Visual	3.5 bar	G2"	936719Q

Note: Filter assemblies ordered from the product configurator on next page are on extended lead times. Where possible, please make your selection from the table above.

## Ordering Information (cont.)

### Product Configurator

Box 1	Box 2	Box 3	Box 4	Box 5	Box 6	Box 7	Box 8
<b>40CN</b>	<b>2</b>	<b>10QE</b>	<b>V</b>	<b>M3</b>	<b>K</b>	<b>G24</b>	<b>4</b>

#### Box 1

Code	
Model	Code
Small size MP filter, T-port	<b>15CN</b>
Medium size MP filter, T-port	<b>40CN</b>
Large size MP filter, T-port	<b>80CN</b>

#### Box 2

Filter type	
Length	Code
Length 1	<b>1</b>
Length 2	<b>2</b>

#### Highlights Key (Denotes part number availability)

<b>123</b>	Item is standard
<b>123</b>	Item is standard with "green" options
<b>123</b>	Item is semi standard
123	Item is non standard

Note: Standard items are in stock, semi standard items are available within four weeks

#### Box 3

Degree of filtration				
Element media	Glass fibre			
	2µ media	5µ media	10µ media	20µ media
Ecoglass III element	<b>02QE</b>	<b>05QE</b>	<b>10QE</b>	<b>20QE</b>

Note: When using Ecoglass III elements a bowl with reusable Eco-adaptor is required.  
Filter assemblies with Microglass III elements are available by request

#### Box 4

Seal type	
Seal material	Code
Fluoroelastomer	<b>V</b>
Nitrile	B

#### Box 5

Indicator	Code
No indicator port	<b>N</b>
Visual indicator	<b>M3</b>
Electrical indicator	<b>T1</b>
Plugged with steel plug	P
Electronic 4 LED, PNP, N.O.	F1
Electronic 4 LED, NPN, N.O.	F2
Electronic 4 LED, PNP, N.C.	F3
Electronic 4 LED, NPN, N.C.	F4

#### Box 6

Bypass valve	Indicator	Code
1.7 bar	1.2 bar	G
3.5 bar	2.5 bar	<b>K</b>

When filter includes a bypass valve but not an indicator, code denotes bypass setting.

#### Box 7

Filter connection	Code
15CN: Thread G <sup>1</sup> / <sub>4</sub>	G12
Thread G1	<b>G16</b>
Thread SAE 12	S12
Thread SAE 16	S16
Thread M27, ISO6149	M27
40CN: Thread G <sup>1</sup> / <sub>4</sub>	G20
Thread G <sup>1</sup> / <sub>2</sub>	<b>G24</b>
Thread SAE 16	S16
Thread SAE 24	S24
Thread M33, ISO6149	M33
80CN: Thread G <sup>1</sup> / <sub>2</sub>	G24
Thread G2	<b>G32</b>
Thread SAE 24	S24
Thread SAE 32	S32
Thread M42, ISO6149	M42
Thread M48, ISO6149	M48
SAE flange 2" 3000-M	R32

#### Box 8

Options	Code
Standard drain port on bowl	<b>4</b>

Ecoglass III elements (Fluoroelastomer seals)				
Model	02QE	05QE	10QE	20QE
15CN-1	<b>936698Q</b>	<b>936699Q</b>	<b>936700Q</b>	<b>936701Q</b>
15CN-2	<b>936702Q</b>	<b>936703Q</b>	<b>936704Q</b>	<b>936705Q</b>
40CN-1	<b>936706Q</b>	<b>936707Q</b>	<b>936708Q</b>	<b>936709Q</b>
40CN-2	<b>936710Q</b>	<b>936711Q</b>	<b>936601Q</b>	<b>936712Q</b>
80CN-1	<b>936713Q</b>	<b>936714Q</b>	<b>936602Q</b>	<b>936715Q</b>
80CN-2	<b>936716Q</b>	<b>936717Q</b>	<b>936718Q</b>	<b>936719Q</b>

Seal kits		
Model	Nitrile	Fluoroelastomer*
15CN	S02594	S02595
40CN	S02596	S02597
80CN	S03543	S03544

Replacement element part numbers for conventional assemblies

Elements with nitrile seals					Elements with Fluoroelastomer seals				
Model	02Q	05Q	10Q	20Q	Model	02Q	05Q	10Q	20Q
15CN-1	928935Q	G04041Q	928934Q	930367Q	15CN-1	932610Q	G04189Q	932612Q	930369Q
15CN-2	928953Q	G04169Q	928952Q	930368Q	15CN-2	932616Q	G04190Q	932618Q	930370Q
40CN-1	926696Q	G04048Q	926835Q	930099Q	40CN-1	926716Q	G04191Q	926836Q	930100Q
40CN-2	926697Q	G04167Q	926837Q	930118Q	40CN-2	926717Q	G04192Q	926838Q	930119Q
80CN-1	932656Q	932657Q	932658Q	929899Q	80CN-1	932659Q	932660Q	832661Q	929903Q
80CN-2	932662Q	932663Q	932664Q	929923Q	80CN-2	932665Q	932666Q	932667Q	929927Q

Conversion bowl assembly (to retrofit existing CN filter housings to use coreless elements)	
936758	15CN-1 coreless element bowl assembly
936759	15CN-2 coreless element bowl assembly
936760	40CN-1 coreless element bowl assembly
936761	40CN-2 coreless element bowl assembly
936763	80CN-1 coreless element bowl assembly
936764	80CN-2 coreless element bowl assembly

Degree of filtration						Code
Average filtration beta ratio β (ISO 16889) / particle size μm [c]						
βx(c)=2	βx(c)=10	βx(c)=75	βx(c)=100	βx(c)=200	βx(c)=1000	
% efficiency, based on the above beta ratio (βx)						Metal free
50.0%	90.0%	98.7%	99.0%	95.5%	99.8%	Ecoglass III
N/A	N/A	N/A	N/A	N/A	4.5	02QE
N/A	N/A	4.5	5	6	7	05QE
N/A	6	8.5	9	10	12	10QE
6	11	17	18	20	22	20QE

#### Nominal flow (l/min) for filter assembly at viscosity 30cSt

Housing, port size	02QE	05QE	10QE	20QE
15CN-1, G1	10	30	50	80
15CN-2, G1	30	70	80	100
40CN-1, G <sup>1</sup> / <sub>2</sub>	60	120	180	260
40CN-2, G <sup>1</sup> / <sub>2</sub>	80	200	280	320
80CN-1, G2	150	300	370	420
80CN-2, G2	180	420	530	600

\* Fluoroelastomers are available under various registered trademarks, including Viton (a registered trademark of DuPont) and Fluorel (a registered trademark of 3M)

Please note the bolded options reflect standard options with a reduced lead-time of (4) weeks or less. Consult Parker Filtration on all other lead-time options.

## FMK - FM

### In-Line Medium Pressure Filters up to 120 bar with take apart

#### Technical Data

- Filter head in tempered aluminum.
- Aluminum bowl.
- Max. operating pressure at 12 MPa (120 bar), static pressure testing at 18 MPa (180 bar).
- Fatigue pressure of 2.000.000 cycles at 0 - 8 MPa (0 - 80 bar) per NFPA T 3.10.5 R2:2000
- By-pass valve integrated in the head setting 600 kPa (6 bar) per ISO 3968.
- On request, filter can be supplied without by-pass valve, stating letter "S".
- Operating temperature -20 +120°C.
- Compatibility hydraulic fluids per ISO2943.
- Flow rate and pressure drop per ISO3968 with oil kinematic viscosity 30 cSt at 40°C and density 0,875 kg/dm³.
- Ports threaded per ISO 228/1.
- Tapped predisposition for indicator.



#### Filter Elements

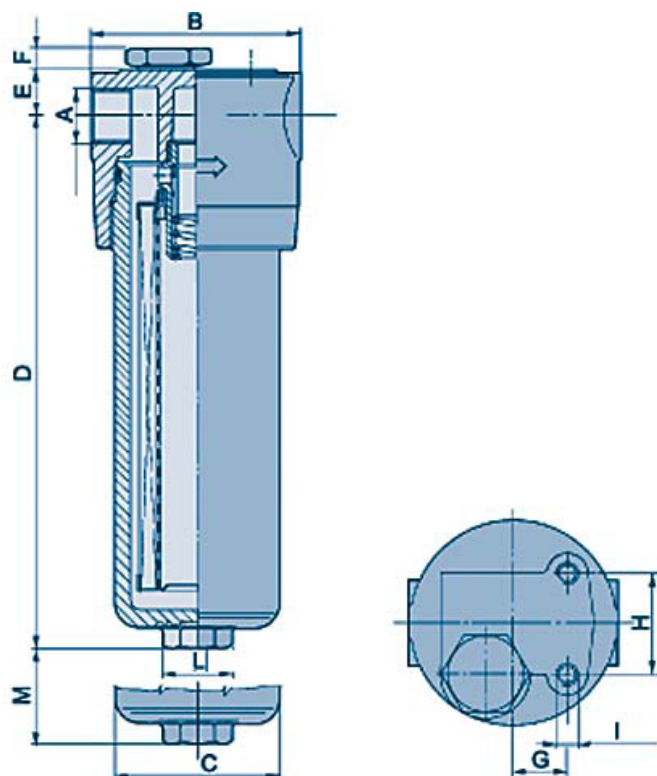
- Synteq® synthetic media with 5 - 10 - 25 micron, reinforced with wire mesh
- Cellulose media 10 micron, reinforced with wire mesh.
- Wire mesh 30 - 60 micron.
- Collapse resistance 2 MPa (20 bar) per ISO 2941.
- End load rating per ISO 3723.
- Flow fatigue characteristics per ISO 3724.
- Element integrity per ISO 2942.
- Filtration efficiency by multipass-test per ISO 16889.

# FMK - FM

## In-Line Medium Pressure Filters

### up to 120 bar with take apart

## Specifications



	/6		/3M			/1			/03		/02		/01	
	WIRE MESH MEDIA					CELLULOSE MEDIA			SYNTHETIC MEDIA					
						$\beta_{36(c)}=1000$			$\beta_{23(c)}=1000$		$\beta_{11(c)}=1000$		$\beta_{8(c)}=1000$	
FLOW l/min	TYPE	ELEMENT	TYPE	ELEMENT	FLOW l/min	TYPE	ELEMENT	FLOW l/min	TYPE	ELEMENT	TYPE	ELEMENT	TYPE	ELEMENT
40					40	K020081 FM 140/1	P171704 CM 140/1	40	K020080 FM 140/03	P171703 CM 140/03	K020079 FM 140/02	P171702 CM 140/02	K020078 FM 140/01	P171701 CM 140/01
50	K020083 FM 140/6	P171706 CM 140/6	K020082 FM 140/3M	P171705 CM 140/3M	50			50						
60					60	K020087 FM 180/1	P171710 CM 180/1	60	K020086 FM 180/03	P171709 CM 180/03	K020085 FM 180/02	P171708 CM 180/02	K020084 FM 180/01	P171707 CM 180/01
80	K020089 FM 180/6	P171712 CM 180/6	K020088 FM 180/3M	P171711 CM 180/3M	80			80						

# 1.1.3

# Høytrykksfilter

120 til 1400 bar



# High Pressure Duplex Filters 22PD/32PD Series MAX 260 l/min - 210 bar





## Specification

### Pressure ratings:

Maximum allowable operating pressure 210 bar.  
Filter housing pressure pulse fatigue tested: 10<sup>6</sup> cycles 210 bar.

### Connections:

Inlet and outlet connections are threaded.

**Connection style**      **Model**

22PD      32PD

BSPF(G)      1"      1 1/4"

Flange SAE 3000-M      1 1/4"      1 1/2"

\*3000-M is a SAE style with appropriate metric fixing threads.

### Filter housing:

Head material cast iron (GSI).

Bowl material steel.

### Seal material:

Nitrile or Fluoroelastomer.

### Operating temperature range:

-20°C to +100°C.

### Bypass valve:

Opening pressure 3.5 bar

### Filter element:

#### Degree of filtration:

Determined by multipass-test according to ISO 16889, see Box 3 in the product configurator.

### Flow fatigue characteristics:

Filter media is supported so that the optimal fatigue life is achieved (ISO 3724).

### Microglass III:

Supported with epoxy coated metal wire mesh, end cap material reinforced composite and metal inner core. Collapse rating 20 bar (ISO 2941).

### High collapse elements:

(to be used when no bypass function in filter housing).

Microglass III media supported with epoxy coated metal wire mesh on upstream and stainless steel on downstream, end cap material steel. Strong metal inner core. Collapse rating 210 bar (ISO 2941).

### Indicator options:

Indicating differential pressure: 2.5 ± 0.2 bar.

- visual M3.

- electrical T1.

- electronic F1(PNP).

- electronic F2(NPN).

For indicator details see catalogue section 6.

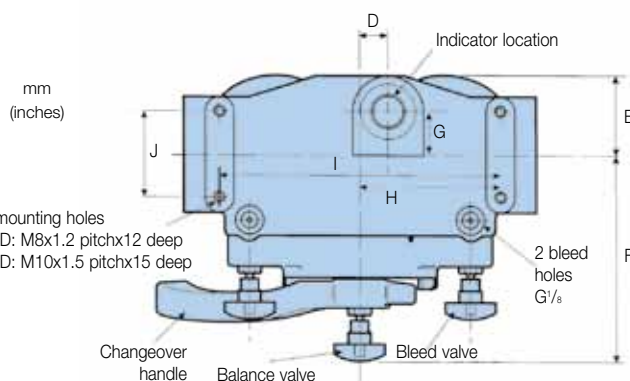
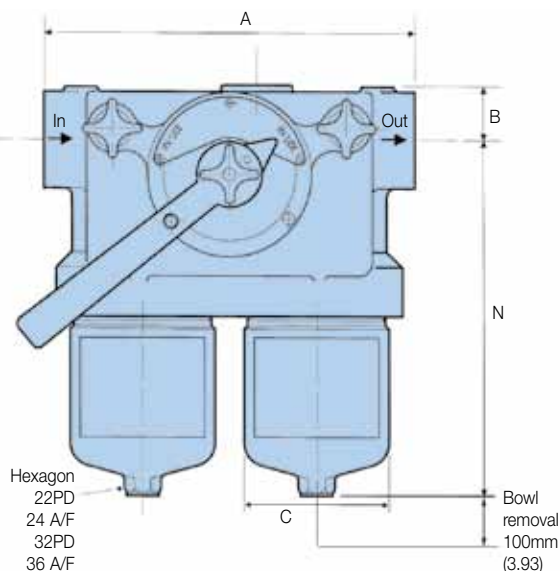
### Weights (kg):

Model	Length 1	Length 2
22PD	22	27
32PD	44	50

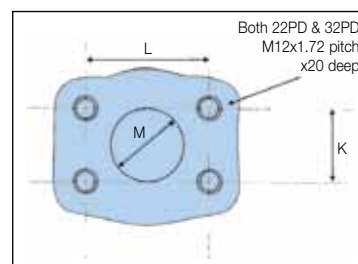
### Fluid compatibility:

Suitable for use with mineral and vegetable oils, and some synthetic oils. For other fluids, please consult Parker Filtration.

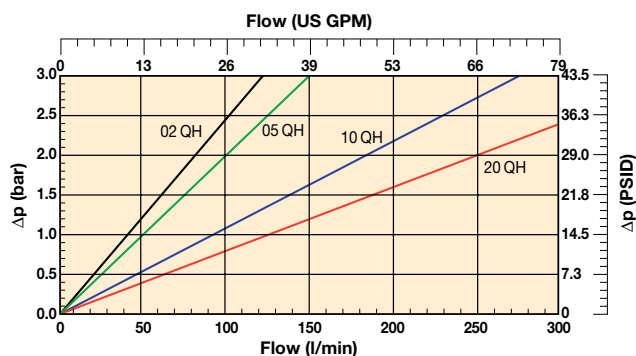
Dimensions mm (inches)													
Model	A	B	C	D	E	F	G	H	I	J	K	L	N
22PD-1	240	35	92	18	55	150	150	96	192	60	30	59	236 (9.29)
22-PD-2	(9.45)	(1.38)	(3.62)	(0.71)	(2.16)	(5.91)	(5.90)	(3.70)	(7.56)	(2.36)	(1.18)	(2.32)	345 (13.58)
32PD-1	306	42	130	20	78	170	165	120	240	75	36	70	317 (12.48)
32PD-2	(12.05)	(1.65)	(5.12)	(0.79)	(3.07)	(6.69)	(6.49)	(4.72)	(9.45)	(2.95)	(1.42)	(2.75)	437 (17.20)



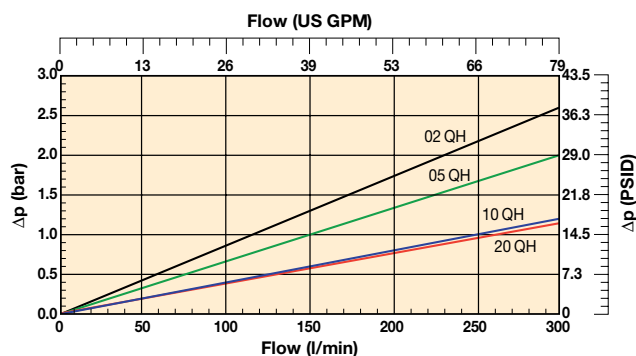
### Flange face detail



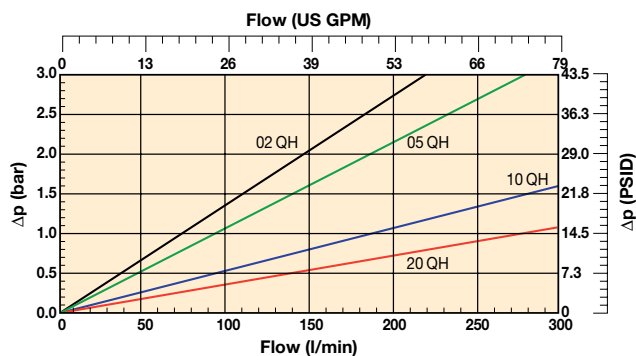
### 22PD-1 High Collapse Elements



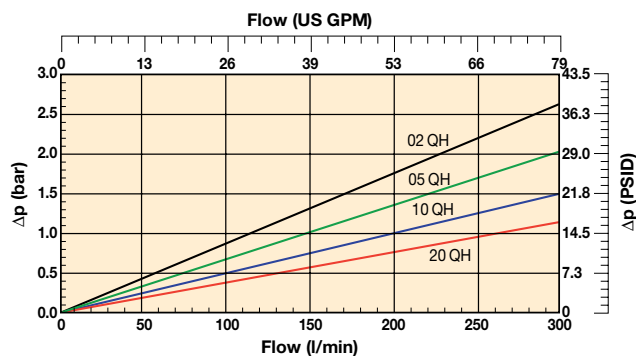
### 22PD-2 High Collapse Elements



### 32PD-1 High Collapse Elements



### 32PD-2 High Collapse Elements



## Ordering Information

### Standard products table

Part number	Supercedes	Flow (l/min)	Model number	Element length	Media rating (μ)	Seals	Indicator	Bypass settings	Ports	Replacement elements
22PD210QBM3KG161	0-22-PD-2-10Q-V-50-C-1	120	22PD	Length 2	10	Nitrile	Visual	3.5 bar	G1"	G01315Q
22PD210QBT1KG161	0-22-PD-2-10Q-TW3-50-C-1	120	22PD	Length 2	10	Nitrile	Electrical	3.5 bar	G1"	G01315Q
22PD220QBM3KG161	0-22-PD-2-20Q-V-50-C-1	140	22PD	Length 2	20	Nitrile	Visual	3.5 bar	G1"	G01938Q
22PD220QBT1KG161	0-22-PD-2-20Q-TW3-50-C-1	140	22PD	Length 2	20	Nitrile	Electrical	3.5 bar	G1"	G01938Q
32PD210QBM3KG201	0-32-PD-2-10Q-V-50-D-1	240	32PD	Length 2	10	Nitrile	Visual	3.5 bar	G1 1/4"	G01098Q
32PD210QBT1KG201	0-32-PD-2-10Q-TW3-50-D-1	240	32PD	Length 2	10	Nitrile	Electrical	3.5 bar	G1 1/4"	G01098Q
32PD220QBM3KG201	0-32-PD-2-20Q-V-50-D-1	260	32PD	Length 2	20	Nitrile	Visual	3.5 bar	G1 1/4"	G01954Q
32PD220QBT1KG201	0-32-PD-2-20Q-TW3-50-D-1	260	32PD	Length 2	20	Nitrile	Electrical	3.5 bar	G1 1/4"	G01954Q

Note: Filter assemblies ordered from the product configurator on the next page are on extended lead times. Where possible, please make your selection from the table above.

## Ordering Information (cont.)

### Product configurator

Box 1	Box 2	Box 3	Box 4	Box 5	Box 6	Box 7	Box 8
<b>22PD</b>	<b>2</b>	<b>10Q</b>	<b>B</b>	<b>M3</b>	<b>K</b>	<b>G16</b>	<b>1</b>

#### Box 1

Code	
Model	Code
Small high pressure duplex filter	<b>22PD</b>
Large high pressure duplex filter	<b>32PD</b>

#### Box 2

Filter type	
Length	Code
Length 1	<b>1</b>
Length 2	<b>2</b>

#### Box 3

Degree of filtration				
Element media	Glass fibre			
	2µ media	5µ media	10µ media	20µ media
Microglass III element	02Q	05Q	<b>10Q</b>	<b>20Q</b>
High collapse element	02QH	05QH	10QH	20QH

#### Box 4

Seal type	
Seal material	Code
Nitrile	<b>B</b>
Fluoroelastomer	V

#### Box 5

Indicator	
	Code
Visual indicator	<b>M3</b>
Electrical indicator	<b>T1</b>
Plugged with steel plug	P
No indicator port	N
Electronic 4 LED, PNP, N.O.	F1
Electronic 4 LED, NPN, N.O.	F2
Electronic 4 LED, PNP, N.C.	F3
Electronic 4 LED, NPN, N.C.	F4

#### Box 6

Bypass and indicator settings		
Bypass valve	Indicator	Code
3.5 bar	2.5 bar	<b>K</b>
No bypass	5.0 bar	M
No bypass	No indicator	X

+ Box 8: code 2  
+ Box 8: code 2

When filter includes a bypass valve but not an indicator, code denotes bypass setting.

#### Box 7

Filter connection	
Ports	Code
22PD: Thread G 1	<b>G16</b>
SAE flange 1 1/2" 3000-M	R20
32PD: Thread G 1 1/4	<b>G20</b>
SAE flange 1 1/2" 3000-M	R24

#### Box 8

Options	
Options	Code
Standard	<b>1</b>
No bypass	2

Replacement elements with nitrile seals				
Media	22PD-1	22PD-2	32PD-1	32PD-2
02Q	<b>G01282Q</b>	<b>G01316Q</b>	<b>G01069Q</b>	<b>G01099Q</b>
05Q	<b>G02721Q</b>	<b>G02724Q</b>	<b>G02567Q</b>	<b>G02727Q</b>
10Q	<b>G01281Q</b>	<b>G01315Q</b>	<b>G01068Q</b>	<b>G01098Q</b>
20Q	<b>G01930Q</b>	<b>G01938Q</b>	<b>G01946Q</b>	<b>G01954Q</b>
02QH	G01442Q	G01448Q	G01454Q	G01460Q
05QH	G03737Q	G03738Q	G03739Q	G03740Q
10QH	G01441Q	G01447Q	G01453Q	G01459Q
20QH	G01932Q	G01940Q	G01948Q	G01956Q

Nominal flow (l/min) at viscosity 30 cSt				
Filter model	02Q	05Q	10Q	20Q
22PD-1	70	80	100	120
22PD-2	100	110	120	140
32PD-1	100	150	210	230
32PD-2	180	210	240	260

Replacement elements with fluoroelastomer seals				
Media	22PD-1	22PD-2	32PD-1	32PD-2
02Q	G01302Q	G01336Q	G01089Q	G01119Q
05Q	G02723Q	G02726Q	G02569Q	G02729Q
10Q	G01301Q	G01335Q	G01088Q	G01118Q
20Q	G01934Q	G01942Q	G01950Q	G01958Q
02QH	G01446Q	G01452Q	G01458Q	G01464Q
05QH	G04235Q	G04236Q	G04237Q	G04238Q
10QH	G01445Q	G01451Q	G01457Q	G01463Q
20QH	G01935Q	G01943Q	G01951Q	G01959Q

Seal kits		
Filter model	Nitrile	Fluoroelastomer
22PD	S04233	S04234
32PD	S02373	S02375

### Highlights Key (Denotes part number availability)

<b>123</b>	Item is standard
<b>123</b>	Item is standard with "green" options
<b>123</b>	Item is semi standard
123	Item is non standard

Note: Standard items are in stock, semi standard items are available within four weeks

Degree of filtration						Code	
Average filtration beta ratio β (ISO 16889) / particle size μm [c]							
βx(c)=2	βx(c)=10	βx(c)=75	βx(c)=100	βx(c)=200	βx(c)=1000		
% efficiency, based on the above beta ratio (βx)						Disposable Microglass III	High collapse element
50.0%	90.0%	98.7%	99.0%	95.5%	99.8%		
N/A	N/A	N/A	N/A	N/A	4.5	02Q	02QH
N/A	N/A	4.5	5	6	7	05Q	05QH
N/A	6	8.5	9	10	12	10Q	10QH
6	11	17	18	20	22	20Q	20QH

Note 1: Part numbers featured with bold highlighted codes will ensure a 'standard' product selection.

Note 2: Alternate displayed part number selection will require you to contact Parker Filtration for availability.

## 50P Series High Pressure Filters



# High Pressure Filters

## 50P Series

### Applications for 50P series filters

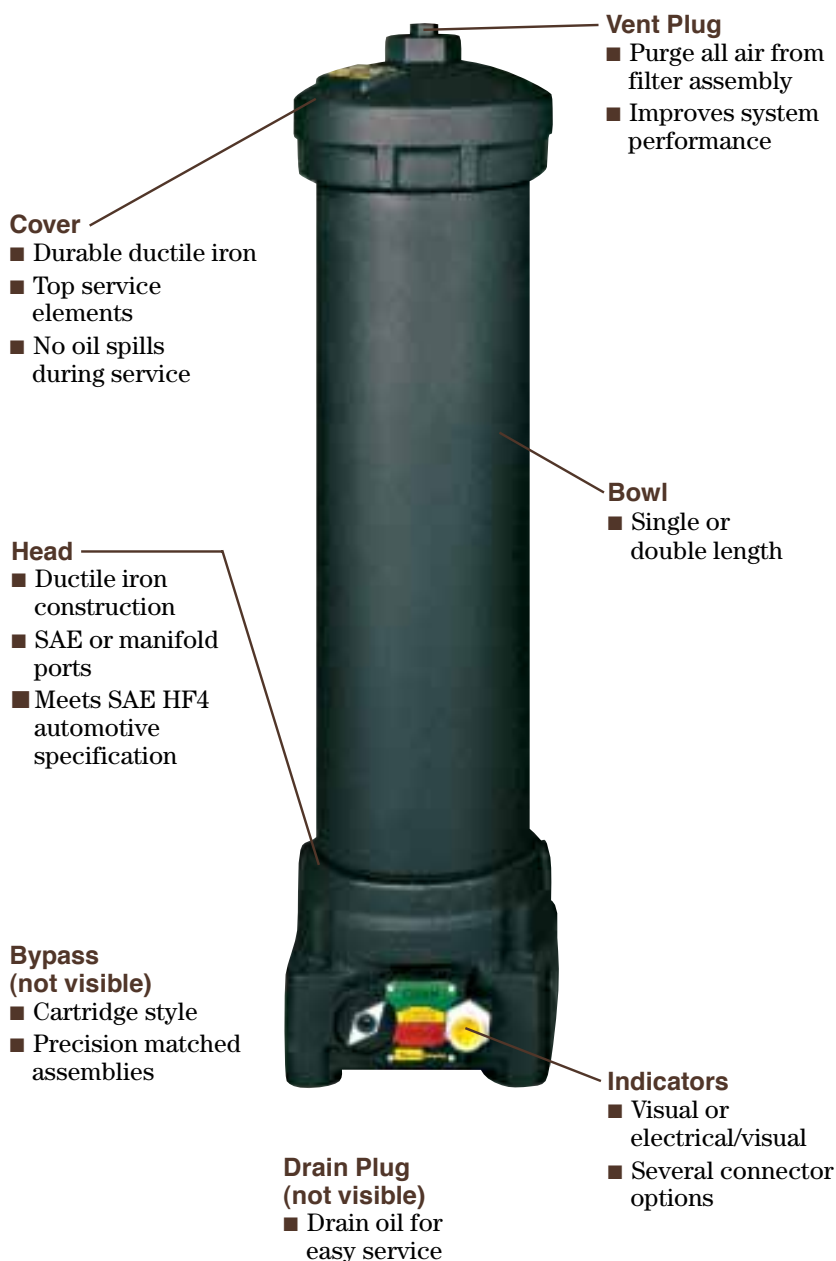
- Automotive specified equipment
- Hydrostatic transmission circuits
- Servo and proportional controls
- Offshore drilling rigs
- Mining equipment
- Power units

The design objective for all Parker filters is to achieve a sensible balance between cost and performance. We use state of the art technology to arrive at innovative yet practical designs. Designs which are cost effective for OEM's and users alike.

The 50P series allows you to customize each filter to closely match your needs. Choose the options which best fit your application. No need to waste money on features you don't need.

The 50P series filters are base mounted, which provides several possible advantages. The bowl up mounting makes servicing the elements quick and easy. Simply remove the top cover to access the element. A drain port is provided to allow oil be removed from filter prior to element servicing. This design reduces the possibility of oil spillage and injury to maintenance personnel.

The 50P series has optional manifold porting for space saving design that reduces the number of fittings and potential leak points. The porting is also designed to match the installation of many other manufacturers. Most important, the 50P series meets the SAE HF4 automotive standard.



## 50P Series

### Features

#### O-Ring Seal

- Positive sealing for optimum element efficiency

#### Plastic End Caps

- Excellent corrosion protection
- Laser marked for clear long lasting identification



#### Microglass II Media

- Multi-layer for high capacity and high efficiency
- Four different micron sizes available
- Wire reinforced to prevent pleat bunching

#### Spiral Support Cylinders (Not Visible)

- High strength consistent support
- Continuous length eliminates leak points and increases surface area

Meets SAE HF4 specification for automotive uses

Feature	Advantage	Benefit
• Base mounted filter	• No brackets required for installation	• Reduced installation costs
• Top access cover	• Remove element from top • Lighter then removing entire bowl	• No oil mess
• Visual and electrical indicators	• Know exactly when to service elements	
• Drain port	• Drain all oil from assembly prior to servicing	• Eliminates cross contamination
• Vent port	• Purges all trapped air in filter	• Get the maximum performance from elements • Prevents a “spongy” system
• Multipass tested elements (per ANSI/NFPA T3.10.8.8 R1-1990)	• Element performance backed by recognized test standards	• Elements selected will have consistent performance levels
• Microglass II elements	• Multi-layer media • Wire reinforced pleats	• High capacity with high efficiency • No performance loss from pleat bunching



## 50P Series

### Specifications: 50P/50PR

#### Pressure Ratings:

Maximum Allowable Operating Pressure (MAOP): 5000 psi (344.8 bar)  
Rated Fatigue Pressure: 3500 psi (241.4 bar)  
Design Safety Factor: 3:1

#### Element Collapse Rating:

150 psid (10.2 bar) standard  
2000 psid (138 bar) high collapse "H" option

#### Operating Temperatures:

Buna: -40°F (-40°C) to 225°F (107°C)  
Viton: -15°F (-26°C) to 275°F (135°C)

#### Filter Materials:

Head (base) and Cover: ductile iron  
Bowl: seamless steel tube

#### Indicators:

Visual 3 band (clean, change element, bypass)  
Electrical: visual as above plus electrical switch with wire leads or connection as selected.

5A @ 240VAC

3A @ 28VDC

SPDT

#### Color Coding:

White (normally closed)

Red (normally open)

Black (common)

#### Shipping Weights (approximate):

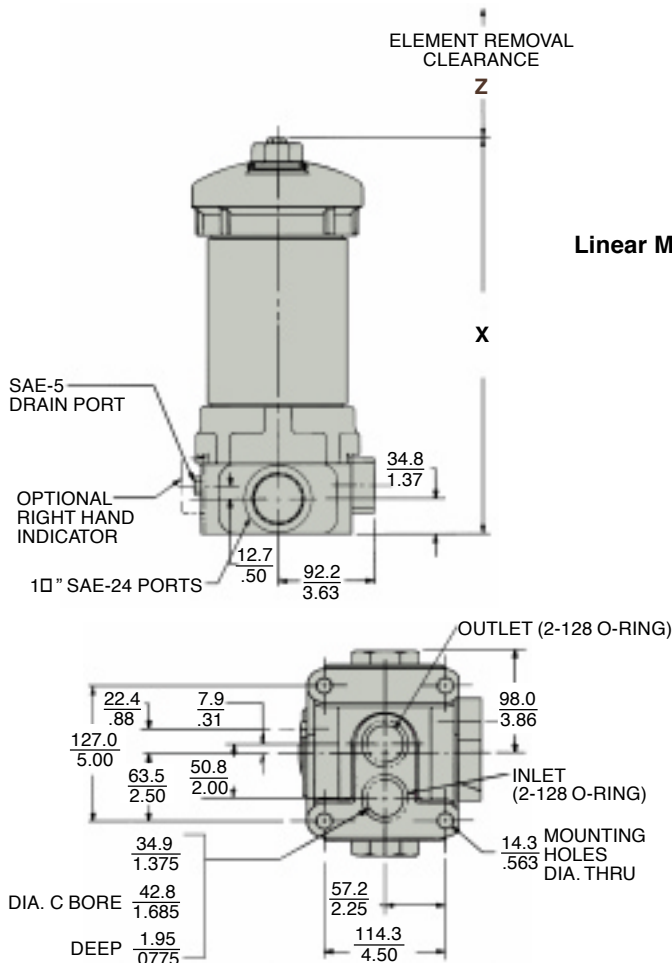
50P-1: 56 lb. (25.4 kg)

50P-2: 77 lb. (34.9 kg)

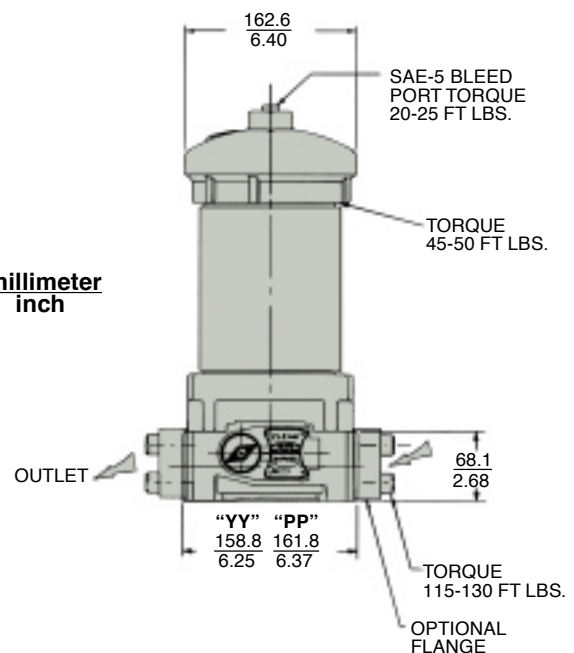
50PR-1: 59 lb. (26.8 kg)

50PR-2: 80 lb. (36.3 kg)

Dimensions= mm/inches	50P-1	50PR-1	50P-2	50PR-2
X	387.1 15.24	404.6 15.93	622.8 24.52	640.3 25.21
Z	254.0 10.00	254.0 10.00	508.0 20.00	508.0 20.00



Linear Measure: millimeter  
inch





## 50P Series

### Parts List

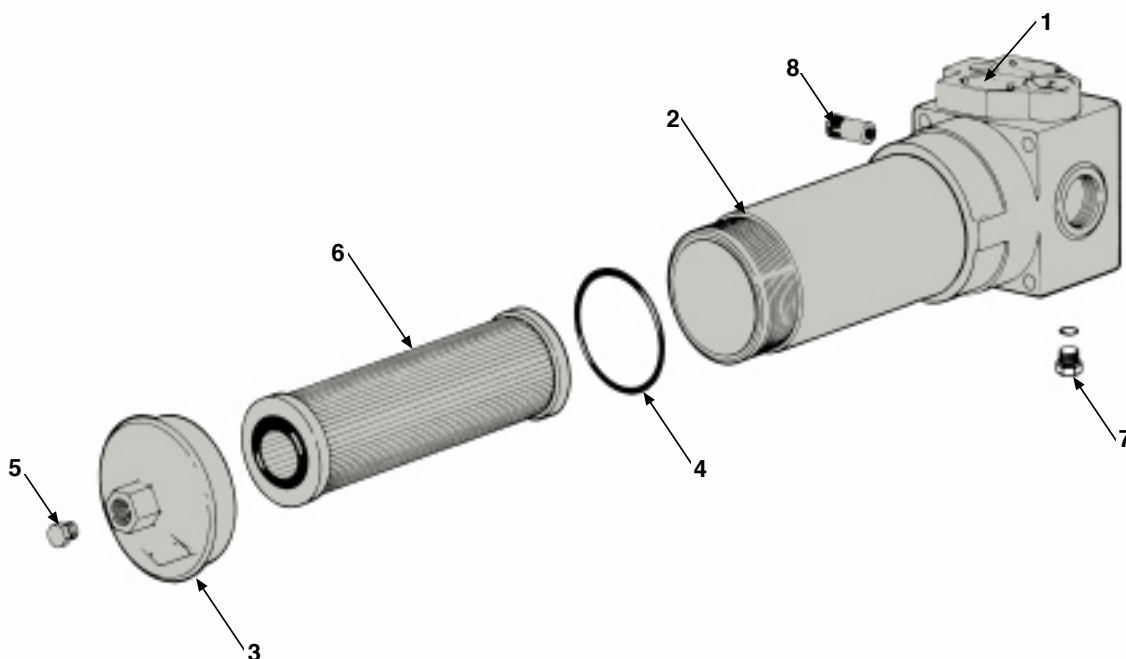
Index	Description	Part Number 50P/PR
1	<b>Head Assembly</b>	Consult Factory
2	<b>Bowl</b>	Consult Factory
3	<b>Cover</b>	926655
4	<b>Cover O-Ring</b>	
	Buna	N92246
	Viton	V92246
5	<b>Vent Plug</b>	
	Buna	N93905
	Viton	V93905
6	<b>Element</b>	See model code page
7	<b>Drain Plug</b>	
	Buna	N93905
	Viton	V93905
8	<b>Bypass Valve</b>	
	(50PR valve is not serviceable)	
	35 psi	925879
	No bypass, 35 psi indicator	925880
	50 psi	924189
	No bypass, 50 psi indicator	924192
	90 psi	927399
	<b>Indicator Kits</b>	
	Mechanical (left side)	931916
	Mechanical (right side)	931924
	Electrical (wire leads)	925337
	Electrical (3-pin Brad Harrison style)	926482
	Electrical (DIN 43650 connection)	929362
	<b>O-Ring, Manifold Port</b>	
	Buna	N92128
	Viton	V92128
	<b>Flange Kits</b>	
	(flange, o-ring, 4 bolts)	
	1" NPT - Buna	926073
	1" NPT - Viton	926076
	1" SAE-24 - Buna	926074
	1" SAE-24 - Viton	926077
	1" Socket weld - Buna	926075
	1" Socket weld - Viton	926078

Note: Consult factory for EPR compatible part numbers

### Element Service Instructions

When servicing the 50P filter, use the following procedure.

- A. Stop the system's power unit.
- B. Relieve any pressure in the filter or line.
- C. If desired, oil can be drained from filter housing by removing the drain port plug located in the head.
- D. Rotate the cover counter-clockwise and remove.
- E. Remove element from housing.
- F. Place new, clean element into housing centering element over locator.
- G. Inspect cover o-ring and replace if necessary.
- H. Apply cover to filter and tighten to 45-50 ft. lbs.
- I. Replace drain plug and tighten 20-25 ft. lbs.



## 50P Series

### HOW TO ORDER:

Select the desired symbol (in the correct position) to construct a model code.

Example:

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8	BOX 9
<b>F3</b>	<b>50P</b>	<b>1</b>	<b>10Q</b>	<b>EL</b>	<b>50</b>	<b>PP</b>	<b>1</b>	Design number assigned by Parker

BOX 1: Seals	
Symbol	Description
<b>None</b>	<b>Buna</b>
<b>F3</b>	<b>Viton</b>
<b>E8</b>	<b>EPR</b>

BOX 2: Basic Assembly	
Symbol	Description
<b>50P</b>	<b>5000 PSI (MAOP)</b>
<b>50PR</b>	Reverse flow hydrostatic version

BOX 3: Length	
Symbol	Description
<b>1</b>	<b>Single</b>
<b>2</b>	<b>Double</b>

BOX 4: Element Media	
Symbol	Description
<b>20C</b>	Cellulose
<b>10C</b>	Cellulose
<b>03C</b>	Cellulose
<b>20Q</b>	<b>Microglass II</b>
<b>10Q</b>	<b>Microglass II</b>
<b>05Q</b>	<b>Microglass II</b>
<b>02Q</b>	<b>Microglass II</b>
Note: For high collapse 2000 psid rated elements, add "H" behind Q.	

BOX 5: Indicators	
Symbol	Description
<b>P</b>	Port plugged
<b>PL</b>	Port plugged, left side
<b>M</b>	Visual indicator
<b>ML</b>	<b>Visual indicator, left side</b>
<b>E</b>	Electrical indicator with wire leads and conduit connection
<b>EL</b>	<b>Electrical indicator with wire leads and conduit connection, left side</b>
<b>D</b>	Electrical indicator w/ ANSI/B.93.55M 3-pin Brad Harrison style connection
<b>DL</b>	Electrical indicator w/ ANSI/B.93.55M 3-pin Brad Harrison style connection, left side
Note: Left side is on viewer's left when looking into inlet port.	

BOX 6: Bypass and Indicator Setting	
Symbol	Pressure Setting
<b>35</b>	35 psid
<b>50</b>	<b>50 psid</b>
<b>90</b>	90 psid

BOX 7: Ports	
Symbol	Description
<b>PP</b>	<b>SAE-24 straight thread</b>
<b>YY</b>	SAE 1□" flange face (J518)
<b>XX</b>	1 3/8" manifold ports on bottom of head

BOX 8: Options	
Symbol	Description
<b>1</b>	<b>None</b>
<b>11</b>	Blocked bypass

BOX 9: Design Number	
Applied to filter assembly by Parker Filter Division. Use the full filter model code, including the design number when ordering replacement parts, elements and cartridges.	

### 50P/50PR Replacement Elements (Viton)

Standard Collapse			High Collapse		
Media	Single	Double	Media	Single	Double
<b>20Q</b>	<b>931018Q</b>	<b>931020Q</b>	20QH	930438Q	931490Q
<b>10Q</b>	<b>932670Q</b>	<b>932679Q</b>	10QH	932676Q	932685Q
<b>05Q</b>	<b>932669Q</b>	<b>932678Q</b>	05QH	932675Q	932684Q
<b>02Q</b>	<b>932668Q</b>	<b>932677Q</b>	02QH	932674Q	932683Q
20C	925773	925793			
10C	925520	925792			
03C	925772	925791			

Please note the bolded options reflect standard options with a reduced lead-time of (4) weeks or less. Consult factory on all other lead-time options.

## High Pressure Filter Models 14P, 24P, 34P Max 500 l/min - 350 bar



## High Pressure Filter - Models 14P, 24P, 34P



An established range of high pressure filters, rated to 350 bar.

Fitted with the unique Parker "Tell-Tale"® visual indicator.

These filters are used in a wide range of applications world-wide, helping system users to maintain critical system cleanliness levels.

### APPLICATIONS :-

- Aircraft Ground Support Equipment
- Civilian and Military Ships
- Industrial Power Units
- Mobile Equipment

## Specification

<b>Working Pressure:</b>	Max 350 bar
<b>Static Safety Factor:</b>	3.5 to 1, minimum burst of 1240 bar
<b>Seal Material:</b>	Nitrile (ordering code B) or Fluoroelastomer* (ordering code V)
<b>Operating Temperatures:</b>	-40° to 121°C
<b>Filter Media:</b>	Wire mesh or composite media, ratings 40 to 2 micron
<b>Element Collapse Rating:</b>	Standard 20 bar, high collapse 207 bar
<b>Visual Indicator:</b>	Visual indicator on both sides of the filter head is mechanically linked to by-pass valve. The indicator shaft is stainless steel fitted with Fluoroelastomer* seals as standard
<b>By-pass Valve:</b>	Opens when pressure differential exceeds 6 bar
<b>Filter Housing:</b>	Head material SG iron, bowl material steel extrusion
<b>Weights (Kg):</b>	14P-1 = 5kg      14P-2 = 6kg 24P-1 = 9kg      24P-2 = 11kg 34P-1 = 18.1kg    34P-2 = 25.2kg

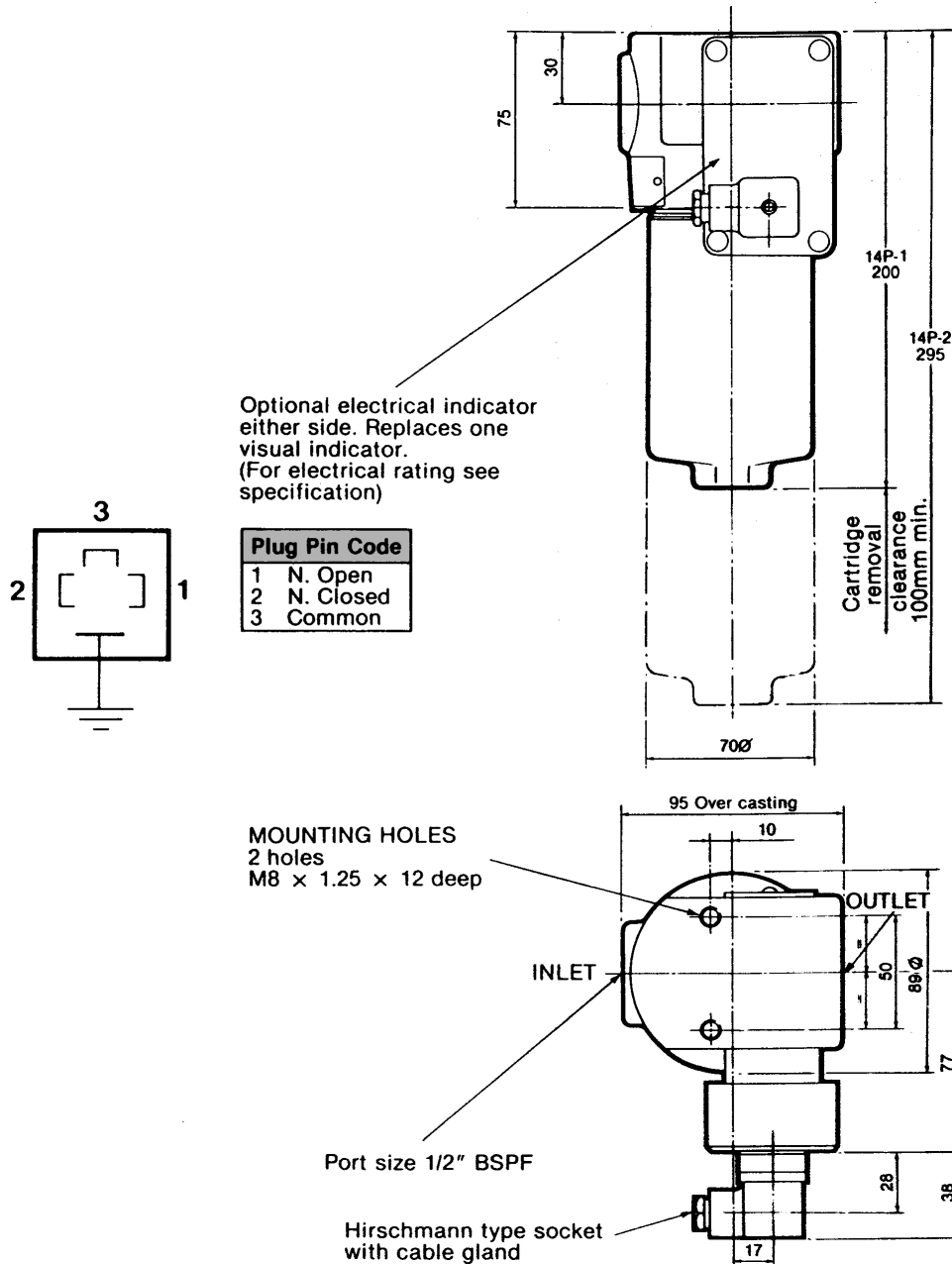
\*Fluoroelastomers are available under various registered trademarks, including Viton (a registered trademark of DuPont) and Fluorel (a registered trademark of 3M)

Optional Electrical Indicator with Hirschmann Type Connector. (For plug pin code see chart below)

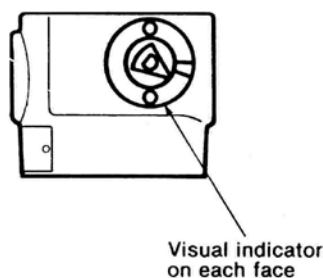
ELECTRICAL RATINGS				
VOLTAGE	RESISTIVE LOAD AMP	TUNGSTEN LAMP LOAD NC-AMP-NO		INDUCTIVE LOAD AMP
<b>AC</b>				
125	10	2	1	10
250	10	1.5	1	10
380	6			6
480	5			5
<b>DC</b>				
UP TO 15	15	3	1.5	15
30	10	3	1.5	10
50	3	0.8	0.8	2.5
75	1	0.6	0.6	0.5
125	0.5	0.5	0.5	0.07
250	0.25	0.25	0.25	0.03

## High Pressure Filter - Models 14P, 24P, 34P

### Model 14P INSTALLATION DETAILS :-



### Indicator Detail



## PREFERRED PRODUCTS TABLE :-

The following filters are supplied with 6 bar bypass and Nitrile seals & dual visual indicators as standard. NB; When fitted with an electrical indicator, the filter part number incorporates this, with a code to signify which side of the filter head the electrical indicator is fitted.

Part Number	Flow (l/min)	Micron Rating	Ports	Indicators	Replacement Elements
14P-1-02Q-M-1	45	02Q	G 1/2	Dual Visual	G01370Q
14P-1-10Q-M-1	60	10Q	G 1/2	Dual Visual	G01369Q
14P-1-20Q-M-1	65	20Q	G 1/2	Dual Visual	G01775Q
14P-1-10Q-ME-1	60	10Q	G 1/2	Dual Visual/Electrical	G01369Q
14P-1-10Q-MEL-1	60	10Q	G 1/2	Dual Visual/Electrical	G01369Q
14P-2-02Q-M-1	60	02Q	G 1/2	Dual Visual	G01403Q
14P-2-10Q-M-1	70	10Q	G 1/2	Dual Visual	G01402Q
14P-2-20Q-M-1	75	20Q	G 1/2	Dual Visual	G01922Q
14P-2-10Q-ME-1	70	10Q	G 1/2	Dual Visual/Electrical	G01402Q
14P-2-10Q-MEL-1	70	10Q	G 1/2	Dual Visual/Electrical	G01402Q
14P-2-10QH-M-11	60	10Q	G 1/2	Dual Visual	G01402Q
24P-1-02Q-M-1	120	02Q	G 1	Dual Visual	G01282Q
24P-1-10Q-M-1	160	10Q	G 1	Dual Visual	G01281Q
24P-1-20Q-M-1	180	20Q	G 1	Dual Visual	G01930Q
24P-1-10Q-ME-1	160	10Q	G 1	Dual Visual/Electrical	G01281Q
24P-1-10Q-MEL-1	160	10Q	G 1	Dual Visual/Electrical	G01281Q
24P-2-02Q-M-1	165	02Q	G 1	Dual Visual	G01403Q
24P-2-10Q-M-1	185	10Q	G 1	Dual Visual	G01402Q
24P-2-20Q-M-1	195	20Q	G 1	Dual Visual	G01938Q
24P-2-10Q-ME-1	185	10Q	G 1	Dual Visual/Electrical	G01402Q
34P-1-02Q-M-1	480	02Q	G1 1/4	Dual Visual	G01069Q
34P-1-10Q-M-1	540	10Q	G1 1/4	Dual Visual	G01068Q
34P-1-20Q-M-1	560	20Q	G1 1/4	Dual Visual	G01946Q
34P-2-02Q-M-1	500	02Q	G1 1/4	Dual Visual	G01099Q
34P-2-10Q-M-1	530	10Q	G1 1/4	Dual Visual	G01098Q
34P-2-20Q-M-1	565	20Q	G1 1/4	Dual Visual	G01954Q
34P-2-10Q-ME-1	530	02Q	G1 1/4	Dual Visual/Electrical	G01098Q
34P-2-10Q-MEL-1	530	10Q	G1 1/4	Dual Visual/Electrical	G01098Q
34P-2-20Q-ME-1	565	20Q	G1 1/4	Dual Visual/Electrical	G01954Q

NOTE: Filters ordered from the Part Number Matrix below are on extended lead times. Where possible, please make your selection from the table above.

## PART NUMBER MATRIX :-

Table 1	Table 2	Table 3	Table 4	Table 5	Table 6	Table 7	Table 8
F3	24	P	1	10C	M	1	-

Table 1

SEALS	
Description	CODE
Buna (Standard)	0
Viton (Optional)	F3*

Indicator shaft seals are Viton as standard

Table 5

FILTER MEDIA	
Description	CODE
Reusable Wire Mesh. 40 micron absolute	40W
Reusable Wire Mesh. 25 micron absolute	25W
Disposable Composite. 2 micron absolute	02Q
Disposable Composite. 10 micron absolute	10Q
Disposable Composite. 20 micron absolute	20Q
High Collapse Rating Composite. 2 micron absolute	02QH
High Collapse Rating Composite. 10 micron absolute	10QH

The micron ratings are in accordance with ISO2942.

Table 3

OPTIONAL INDICATORS	
Description	CODE
Mechanical Indicators Standard on LH & RH Sides	M
Mechanical Indicator LHS Electrical Indicator RHS	ME*
Mechanical Indicator RHS Electrical Indicator LHS	MEL*

Note: Left hand & right hand are when viewed on inlet port with bowl down

Table 2

MODEL	
	14
	24
	34

Table 6

MODIFICATIONS	
Description	CODE
With Bypass	1
With Bypass and Magnets	3*
No Bypass	11
No Bypass and Magnets	12*

Table 4

ELEMENT LENGTHS	
Description	CODE
Single Length	1
Double Length	2

Table 7

DESIGN NUMBER	
Applied to the filter assembly by Parker Filtration Division. Use the full filter model code, including the design number when ordering replacement parts, elements & cartridges.	

Table 8

REPLACEMENT ELEMENT PART NUMBERS SINGLE LENGTH			
Media Reference	14P	24P	34P
40W	G01367Q	G01279Q	G01066Q
25W	G01368Q	G01280Q	G01067Q
02Q	G01370Q	G01282Q	G01069Q
10Q	G01369Q	G01281Q	G01068Q
02QH	G01429Q	G01442Q	G01454Q
10QH	G01428Q	G01441Q	G01453Q

REPLACEMENT ELEMENT PART NUMBERS DOUBLE LENGTH			
Media Reference	14P	24P	34P
40W	G01400Q	G01313Q	G01096Q
25W	G01401Q	G01314Q	G01097Q
02Q	G01403Q	G01316Q	G01099Q
10Q	G01402Q	G01315Q	G01098Q
02QH	G01435Q	G01448Q	G01460Q
10QH	G01434Q	G01447Q	G01459Q

\* Option effects price of filter

\* Option effects price of filter



## High Pressure Filters 18/28/38P Series Max 520 l/min - 414 bar





## SPECIFICATION

### Maximum Allowable Operating Pressure:

414 bar (6000 psi). Factor safety 3:1

### Operating Temperature Range:

-40° to 120°C (-30°F to +250°F)

### Materials of Construction:

SG iron head, steel bowl

### Ports:

Inlet and outlet ports are threaded internally or flange faced

### Port Style

Model	18P	28P	38P
BSPF(G)	3/4"	1"	1 1/4", 1 1/2"
SAE	12	16	20, 24
ISO 6149	M27	M33	M42, M48
SAE 6000-config	3/4"	1"	1 1/4"
Metric 6000-M config*	3/4"	1"	1 1/4"

\*6000-M is SAE style with appropriate metric fixing threads

### Bypass Valve & Indicator Settings:

Table below gives bypass valve and corresponding indicator setting

Bypass	Indicator
3.5 bar	2.5 bar
7.0 bar	5.0 bar

### Weights (kg):

Model	Length 1	Length 2
18P	4.2	5.7
28P	6.7	9.2
38P	15.8	20.3

### Fluid Compatibility:

Suitable for use with mineral oils, most water glycols and other water based fluids. For other fluids, please consult Filter Division Europe

### Seals:

Head to bowl, diametral with anti-extrusion ring.

Materials - Nitrile or Fluoroelastomer\*

### Element Condition Indicators: (Differential Pressure Type)

Cartridge type visual, with auto reset. Cartridge type electrical, with auto reset and socket to DIN43650, protection class IP65

### Electrical Ratings:

Power - 5 VA max, Current - 0.25 A max (resistive), Voltage - 28 VDC max, 28 VAC (50-60Hz) max, Contacts - normally open and normally closed, wired to DIN plug pin code

### Filter Elements:

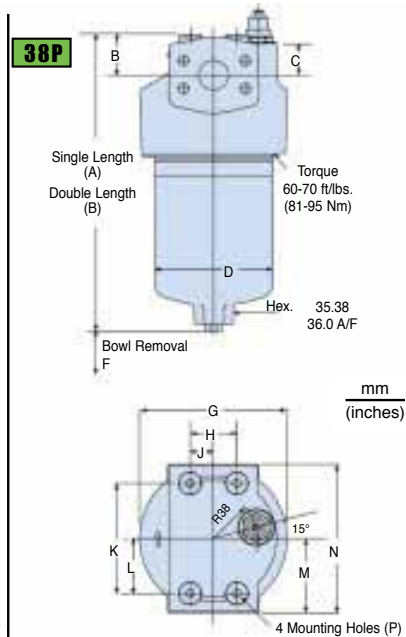
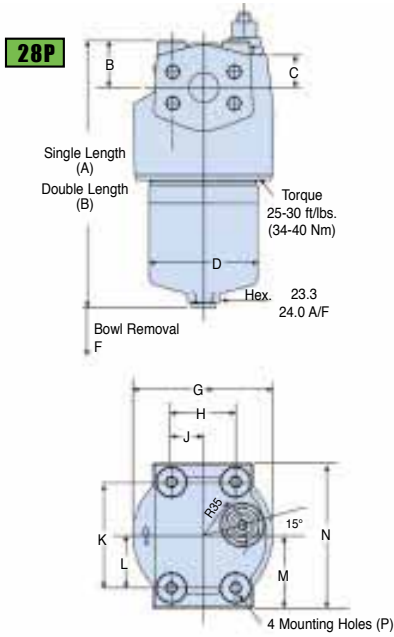
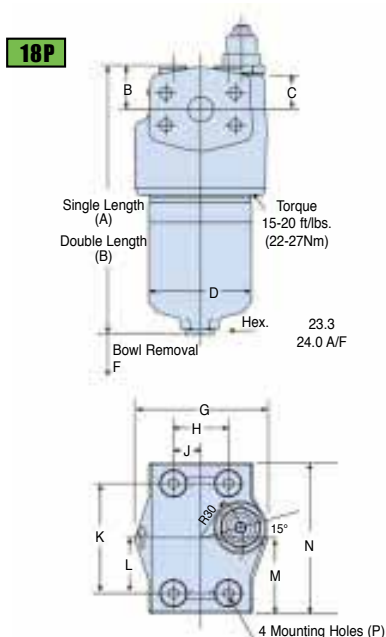
Microglass III supported with epoxy coated steel mesh. (See Table 4).

### Element Collapse Rating:

Standard; 20 bar differential minimum. High collapse; 210 bar differential minimum

\*Fluoroelastomers are available under various registered trademarks, including Viton (a registered trademark of DuPont) and Fluorel (a registered trademark of 3M)

Model	A	B	C	D	E (A/F)	F	G	H	J	K	L	M	N	P
18P-1	198 (7.79)	32 (1.26)	26 (1.02)	75 (2.95)	24 (0.94)	100 (3.94)	98 (3.86)	40 (1.57)	20 (0.79)	80 (3.15)	40 (1.57)	55 (2.16)	110 (4.33)	M8 x 1.25 x12 (0.47) deep
18P-2	293 (11.53)													
28P-1	228 (8.97)	40 (1.57)	29 (1.14)	93 (3.66)	40 (1.14)		120 (4.72)	55 (2.16)	27.5 (1.07)	90 (3.54)	45 (1.77)	62 (2.44)	124 (4.88)	M10 x 1.5 x11 (0.43) deep
28P-2	337 (13.26)													
38P-1	329 (12.95)	44 (1.73)	35 (1.38)	128 (5.04)	36 (1.42)		160 (6.30)	50 (1.97)	25 (0.98)	120 (4.72)	60 (2.36)	81 (3.19)	162 (6.38)	M10 x 1.5 x12 (0.47) deep
38P-2	448 (17.64)													



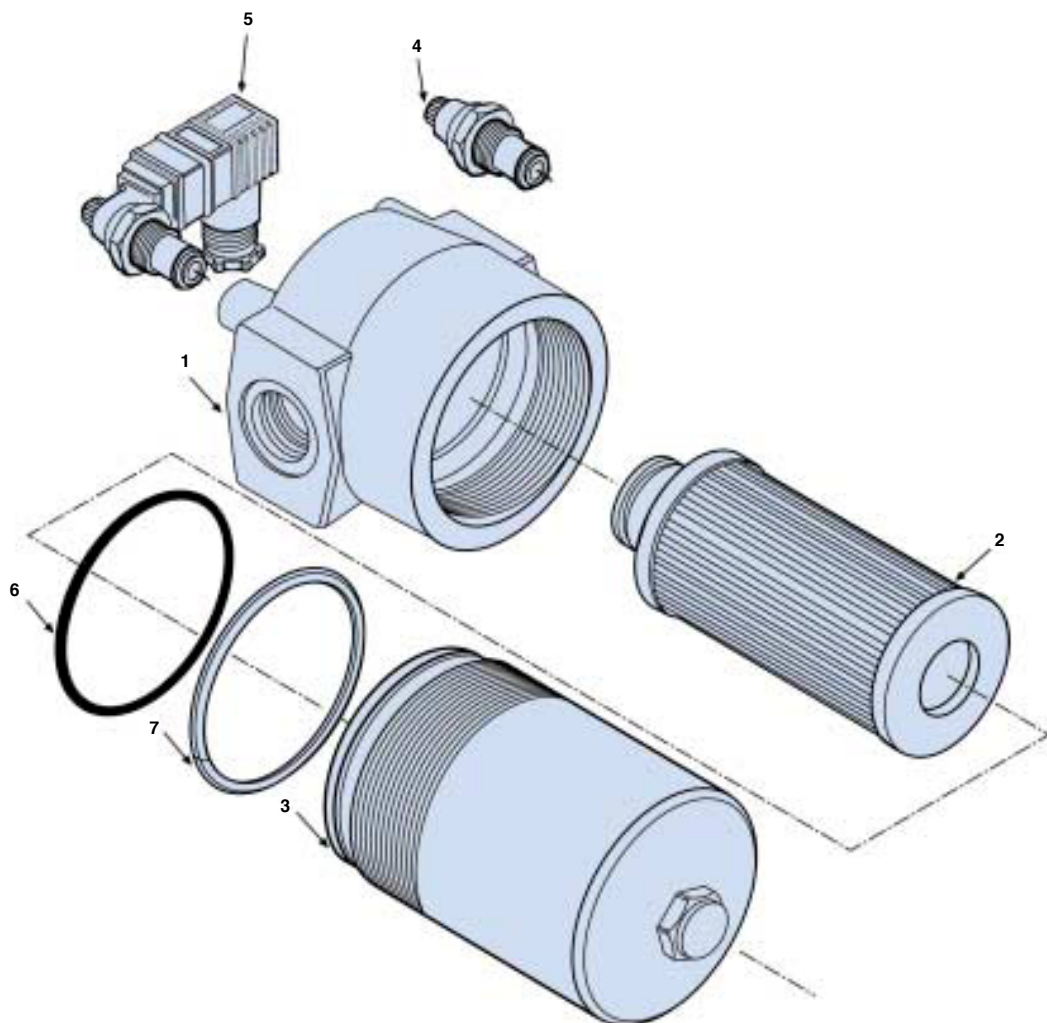
## Element Service

- A. Stop the system's power unit.
- B. Relieve any system pressure in the filter line.
- C. Drain the filter bowl if drain port option is provided.
- D. Rotate the bowl clockwise (left) and remove.
- E. Remove element by pulling downward with a slight twisting motion and discard.
- F. Check bowl o-ring and anti-extrusion ring for damage and replace if necessary.
- G. Lubricate element o-ring with system fluid and locate element in filter head.
- H. Install bowl by rotating counter-clockwise (right) and tighten to specified torque.
  - 18P — 15-20ft. lbs (22-27 Nm)
  - 28P — 25-30ft. lbs (34-40 Nm)
  - 38P — 60-70ft. lbs (81-95 Nm)
- I. Confirm there are no leaks after powering the system.

## Parts List

Index	Description
1	<b>Head Assembly</b>
2	<b>Element</b>
3	<b>Bowl</b>
	Single length
	Double length
	<b>Indicators</b>
4	M2 – Visual autoreset
5	E2 – Electrical/Visual w/DIN connection
6	<b>Bowl Seal</b>
7	<b>Bowl Anti-extrusion Ring</b>
	*Seal Kit – (Nitrile)
	*Seal Kit – (Fluoroelastomer)

\* Includes bowl o-ring, bowl anti-extrusion washer and indicator o-rings



## PREFERRED PRODUCTS TABLE

The following filters are supplied with 7.0 bar bypass and Nitrile seals.

Part Number	Part Number	Flow (l/min)	Media Rating	Ports	Replacement Elements
18P-1-02Q-M2-98-B2B2-1	18P-1-02Q-E2-98-B2B2-1	35	02Q	G <sup>3</sup> / <sub>4</sub>	G04242
18P-1-05Q-M2-98-B2B2-1	18P-1-05Q-E2-98-B2B2-1	60	05Q	G <sup>3</sup> / <sub>4</sub>	G04243
18P-1-10Q-M2-98-B2B2-1	18P-1-10Q-E2-98-B2B2-1	90	10Q	G <sup>3</sup> / <sub>4</sub>	G04244
18P-1-20Q-M2-98-B2B2-1	18P-1-20Q-E2-98-B2B2-1	100	20Q	G <sup>3</sup> / <sub>4</sub>	G04245
18P-2-02Q-M2-98-B2B2-1	18P-2-02Q-E2-98-B2B2-1	60	02Q	G <sup>3</sup> / <sub>4</sub>	G04250
18P-2-05Q-M2-98-B2B2-1	18P-2-05Q-E2-98-B2B2-1	90	05Q	G <sup>3</sup> / <sub>4</sub>	G04251
18P-2-10Q-M2-98-B2B2-1	18P-2-10Q-E2-98-B2B2-1	110	10Q	G <sup>3</sup> / <sub>4</sub>	G04252
18P-2-20Q-M2-98-B2B2-1	18P-2-20Q-E2-98-B2B2-1	130	20Q	G <sup>3</sup> / <sub>4</sub>	G04253
28P-1-02Q-M2-98-C2C2-1	28P-1-02Q-E2-98-C2C2-1	80	02Q	G1	G04258
28P-1-05Q-M2-98-C2C2-1	28P-1-05Q-E2-98-C2C2-1	100	05Q	G1	G04259
28P-1-10Q-M2-98-C2C2-1	28P-1-10Q-E2-98-C2C2-1	150	10Q	G1	G04260
28P-1-20Q-M2-98-C2C2-1	28P-1-20Q-E2-98-C2C2-1	200	20Q	G1	G04261
28P-2-02Q-M2-98-C2C2-1	28P-2-02Q-E2-98-C2C2-1	120	02Q	G1	G04266
28P-2-05Q-M2-98-C2C2-1	28P-2-05Q-E2-98-C2C2-1	160	05Q	G1	G04267
28P-2-10Q-M2-98-C2C2-1	28P-2-10Q-E2-98-C2C2-1	200	10Q	G1	G04268
28P-2-20Q-M2-98-C2C2-1	28P-2-20Q-E2-98-C2C2-1	240	20Q	G1	G04269
38P-1-02Q-M2-98-D2D2-1	38P-1-02Q-E2-98-D2D2-1	130	02Q	G1 <sup>1</sup> / <sub>4</sub>	G04274
38P-1-05Q-M2-98-D2D2-1	38P-1-05Q-E2-98-D2D2-1	250	05Q	G1 <sup>1</sup> / <sub>4</sub>	G04275
38P-1-10Q-M2-98-D2D2-1	38P-1-10Q-E2-98-D2D2-1	360	10Q	G1 <sup>1</sup> / <sub>4</sub>	G04276
38P-1-20Q-M2-98-D2D2-1	38P-1-20Q-E2-98-D2D2-1	450	20Q	G1 <sup>1</sup> / <sub>4</sub>	G04277
38P-2-10Q-M2-98-D2D2-1	38P-2-10Q-E2-98-D2D2-1	500	10Q	G1 <sup>1</sup> / <sub>4</sub>	G04284

**Note:** Filter assemblies ordered from the Part Number Matrix below are on extended lead times.  
Where possible, please make your selection from the table above.

## PART NUMBER MATRIX

Table 1 <b>F3</b>	Table 2 <b>28P</b>	Table 3 <b>1</b>	Table 4 <b>10Q</b>	Table 5 <b>M2</b>	Table 6 <b>98</b>	Table 7 <b>C2C2</b>	Table 8 <b>1</b>	Table 9 <b>—</b>
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Table 1

Seals	
Description	SYMBOL
Nitrile	O
Fluoroelastomer*	F3

Table 2

Model Number	
Symbol	
18P	
28P	
38P	

Table 5

Indicator Options	
Description	SYMBOL
None	N
Visual (Auto reset)	M2
FPC Visual (Auto reset)	V6
Visual Electrical Din Plug	E2
FPC Electrical Din Plug	TW6
FPC Electronic L.E.D.	FW6
Note: Indicator Differential Pressure Settings 2.5 bar with 3.5 bar bypass 5.0 bar with 7.0 bar bypass 5.0 bar with no bypass	

Table 7

Ports		
Description	MODEL	SYMBOL
G <sup>3</sup> / <sub>4</sub> " Thread	18P	B2B2
12, SAE Thread		M4M4
M27, ISO 6149		B3B3
3/4" 6000-M Flange Face		Y3Y3
3/4" 6000-M Config. Flange Face		Y9Y9
G1	28P	C2C2
16 SAE Thread		N4N4
M33, ISO 6149		C3C3
1" 6000-M Flange Face		Y3Y3
1" 6000-M Config. Flange Face		Y9Y9
G1 <sup>1</sup> / <sub>4</sub> " Thread	38P	D2D2
G1 <sup>1</sup> / <sub>2</sub> " Thread		E2E2
20 SAE Thread		O4O4
24 SAE Thread		P4P4
M42, ISO 6149		D3D3
M48, ISO 6149		E3E3
1 <sup>1</sup> / <sub>2</sub> " 6000-M Flange Face		Y3Y3
1 <sup>1</sup> / <sub>2</sub> " 6000-M Config. Flange Face		Y9Y9

Table 3

Housing Length	
Description	SYMBOL
Single Length	1
Double Length	2

Table 6

Bypass Indicator Setting	
Description	SYMBOL
3.5 bar	50
7.0 bar	98
No bypass	X

Table 4

Degree of Filtration						
Average filtration ratio B (ISO 16889) / particle size µm(c)						CODE
2	10	75	100	200	1000	
N/A	N/A	N/A	N/A	N/A	4.5	02Q
						02QH
N/A	N/A	4.5	5	6	7	05Q
						05QH
N/A	6	8.5	9	10	12	10Q
						10QH
6	11	17	18	20	22	20Q
						20QH

Table 8

Options	
Description	SYMBOL
None	I
No Bypass	II

Table 9

Design Number	
Applied to the filter assembly by Parker Filtration.	

## High Pressure Filters 70/70 Eco Series Max 450 l/min - 420 bar



# High Pressure Filters

## 70/70 Eco Series

Features	Advantages	Benefits
Fatigue tested to full pressure rating	Strong and robust housing for heavy duty applications	Reliable and continuous operation both in mobile and industrial applications
Several head options and connection sizes	Easy mounting	Reduced space and piping Right filter for each application
Several bowl lengths	Optimised sizing	Efficient filtration
Microglass III replacement elements	Multi-layered design produced high capacity and efficiency	Great performance value Reliable performance throughout element life
	Wire support reduces pleat bunching, keeps performance consistent	Reduces downtime, maximises element life
Coreless Ecoglass III replacement elements	No metal content in element	Environmentally friendly disposal by incineration
	Reduced overall weight of 50%	Lower element replacement costs
	Easy compaction of used elements	Lower disposal costs
	Eco adaptors available	Retrofit coreless design to housings already installed
Visual, electrical and electronic indicators available	Check element condition at a glance	Optimise element life, prevent bypassing
	Right style for the application	Matches your system electrical connections

### Typical Applications

- Forestry equipment
- Industrial power units
- Pulp and paper
- Port handling equipment
- Mining and quarrying equipment

### The Parker Filtration 70/70 Eco Series High Pressure Filters.

High quality 420 bar in-line pressure filters designed to offer high levels of protection at flows up to 450 l/min.

Dirt sensitive systems can be protected with confidence using the 70 Series high pressure filters.

The 70 Series also available with environmentally friendly Ecoglass III elements.

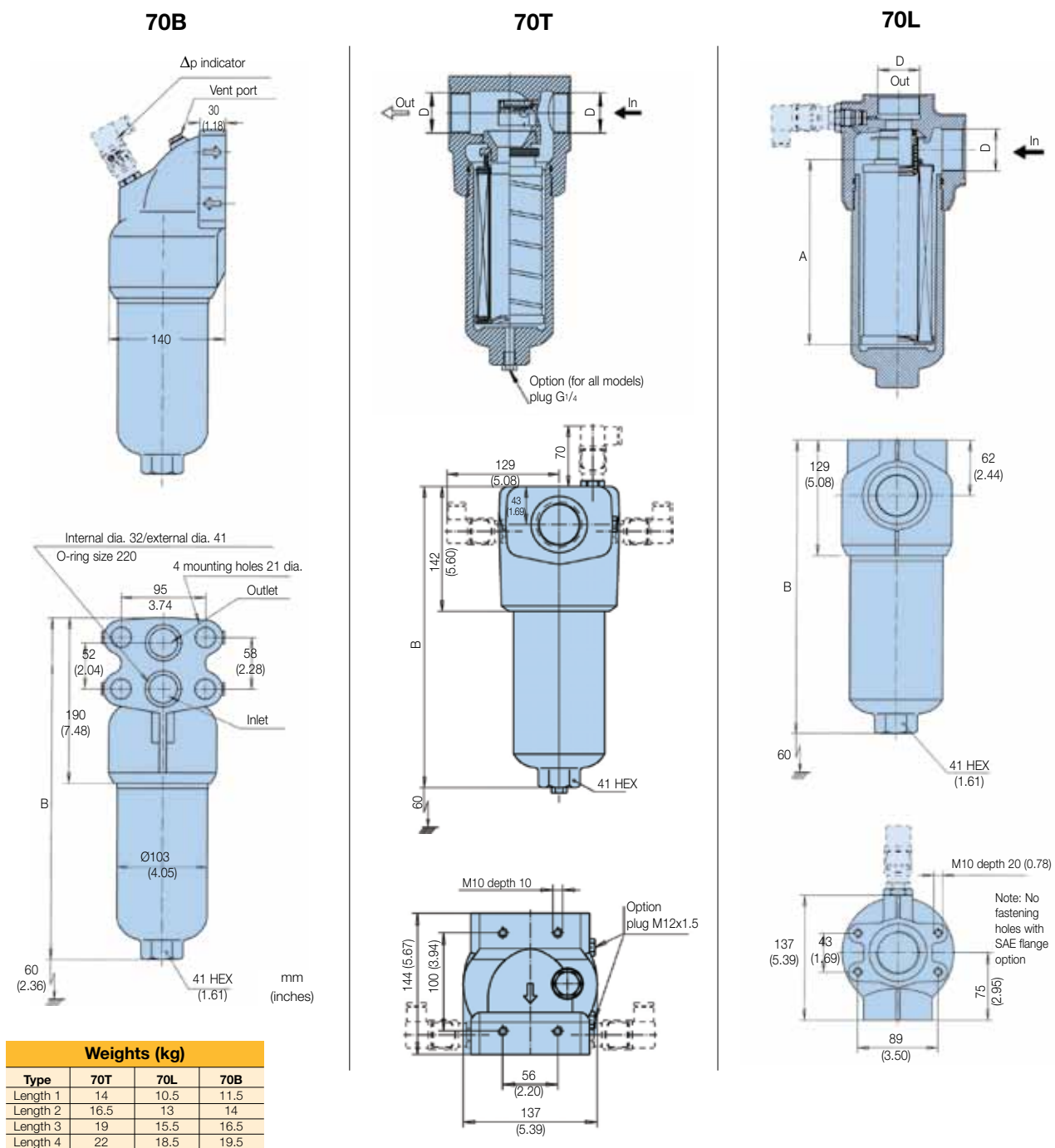




# High Pressure Filters

## 70/70 Eco Series

### Specification



Type	A	B	B	B	Max working pressure	Port D
		70T	70B	70L		
Length 1	116 (4.57)	249 (9.80)	295 (11.61)	235 (9.25)	420 bar	G1, G1¼ or G1½ Flange 1½ SAE 3000-M Flange 1¼ SAE 3000-M Flange 1½ SAE 6000-M Flange 1¼ SAE 6000-M
Length 2	208 (8.19)	342 (13.46)	390 (15.35)	330 (13.00)		
Length 3	329 (12.95)	462 (18.19)	510 (20.08)	450 (17.72)		
Length 4	428 (16.85)	562 (22.12)	610 (24.01)	550 (21.65)	350 bar	

# High Pressure Filters

## 70/70 Eco Series

### Ordering Information (cont.)

#### Product configurator

Box 1	Box 2	Box 3	Box 4	Box 5	Box 6	Box 7	Box 8
<b>70L</b>	<b>3</b>	<b>10Q</b>	<b>B</b>	<b>M3</b>	<b>K</b>	<b>G24</b>	<b>1</b>

Box 1		Box 2		Box 3				
Code		Filter type		Degree of filtration				
Model	Code	Length	Code	Element media	Glass fibre			
High pressure filter with L-port	<b>70L</b>	Length 1	<b>1</b>		2µ media	5µ media	10µ media	20µ media
High pressure filter with T-port	<b>70T</b>	Length 2	<b>2</b>	Microglass III element	<b>02Q</b>	<b>05Q</b>	<b>10Q</b>	<b>20Q</b>
High pressure filter with side manifold mounting	70B	Length 3	<b>3</b>	Ecoglass III element	<b>02QE</b>	<b>05QE</b>	<b>10QE</b>	<b>20QE</b>
		Length 4	<b>4</b>	High collapse element	02QH	05QH	10QH	20QH

Note: When using Ecoglass III elements reusable Eco-adaptor is required

Box 4		Box 5		Box 6		
Seal type		Indicator		Bypass and indicator settings		
Seal material	Code		Code	Bypass valve	Indicator	Code
Nitrile	<b>B</b>	Plugged with steel plug	<b>P</b>	3.5 bar	2.5 bar	<b>K</b>
Fluoroelastomer	V	Visual indicator	<b>M3</b>	No bypass	7.0 bar	N
		Electrical indicator	<b>T1</b>	No bypass	No indicator (P)	X
		Electronic 4 LED, PNP, N.O.	F1	+ Box 8: code 2 + Box 8: code 2		
		Electronic 4 LED, NPN, N.O.	F2			
		Electronic 4 LED, PNP, N.C.	F3			
		Electronic 4 LED, NPN, N.C.	F4			

When filter includes a bypass valve but not an indicator, code denotes bypass setting.

Box 7					
Filter connection					
Connections	Code	Length 1	Length 2	Length 3	Length 4
Thread G 1	<b>G16</b>	<b>S</b>	<b>S</b>	x	x
Thread G 1 1/4	<b>G20</b>	<b>S</b>	<b>S</b>	<b>S</b>	<b>S</b>
Thread G 1 1/2	<b>G24</b>	x	<b>S</b>	<b>S</b>	<b>S</b>
SAE flange 1 1/4" 3000-M	R20	x	x	x	x
SAE flange 1 1/2" 3000-M	R24	x	x	x	x
SAE flange 1 1/4" 6000-M	H20	x	x	x	x
SAE flange 1 1/2" 6000-M	H24	x	x	x	x
Side manifold (70B only)	X32	x	x	x	x

Availability: **S** = standard product  
x = non-standard, ask for availability

Box 8	
Options	
Options	Code
Standard	<b>1</b>
No bypass	2
70T: side indicator ports	6
70T: options 2 + 6	8

Options 6 and 8: in 70T model there is an option for 2 x indicator ports on filter outlet flange (standard indicator port not machined)  
P: both side indicator ports plugged with steel plug M3 or other indicator chosen: right side (in flow direction) port plugged with a plastic plug, left with a steel plug

Nominal flow (l/min) at viscosity 30 cSt						
Filter length	Media	G16 T-port	G16 L-port & G20 T-port	G20 L-port & Side manifold	G24 T-port	G24 L-port
Length 1	02Q/02QE	80	80	80	80	80
	05Q/05QE	120	120	120	120	120
	10Q/10QE	150	150	150	150	150
	20Q/20QE	200	230	230	230	230
	20Q/20QE	240	280	300	330	350
Length 2	02Q/02QE	160	160	160	160	160
	05Q/05QE	180	200	200	200	200
	10Q/10QE	220	260	280	300	320
	20Q/20QE	240	280	300	330	350
	20Q/20QE	250	300	320	380	430
Length 3	02Q/02QE	200	220	220	220	220
	05Q/05QE	220	250	280	280	280
	10Q/10QE	240	280	300	350	400
	20Q/20QE	250	300	320	380	430
	20Q/20QE	220	250	270	270	270
Length 4	02Q/02QE	220	250	270	270	270
	05Q/05QE	230	260	300	330	330
	10Q/10QE	250	280	330	360	430
	20Q/20QE	260	300	350	380	450

Replacement elements with nitrile seals				
Media	Length 1	Length 2	Length 3	Length 4
02Q	<b>938771Q</b>	<b>938775Q</b>	<b>938779Q</b>	<b>938783Q</b>
05Q	<b>938772Q</b>	<b>938776Q</b>	<b>938780Q</b>	<b>938784Q</b>
10Q	<b>938773Q</b>	<b>938777Q</b>	<b>938781Q</b>	<b>938785Q</b>
20Q	<b>938774Q</b>	<b>938778Q</b>	<b>938782Q</b>	<b>938786Q</b>
02QE	<b>938787Q</b>	<b>938791Q</b>	<b>938795Q</b>	<b>938799Q</b>
05QE	<b>938788Q</b>	<b>938792Q</b>	<b>938796Q</b>	<b>938800Q</b>
10QE	<b>938789Q</b>	<b>938793Q</b>	<b>938797Q</b>	<b>938801Q</b>
20QE	<b>938790Q</b>	<b>938794Q</b>	<b>938798Q</b>	<b>938802Q</b>
02QH	938803Q	938807Q	938811Q	938815Q
05QH	938804Q	938808Q	938812Q	938816Q
10QH	938805Q	938809Q	938813Q	938817Q
20QH	938806Q	938810Q	938814Q	938818Q

#### Highlights Key (Denotes part number availability)

<b>123</b>	Item is standard
<b>123</b>	Item is standard with "green" options
<b>123</b>	Item is semi standard
123	Item is non standard

Note: Standard items are in stock, semi standard items are available within four weeks

Degree of filtration						Code		
Average filtration beta ratio β (ISO 16889) / particle size μm [c]								
βx(c)=2	βx(c)=10	βx(c)=75	βx(c)=100	βx(c)=200	βx(c)=1000			
% efficiency, based on the above beta ratio (βx)						Disposable	Metal free	High collapse
50.0%	90.0%	98.7%	99.0%	95.5%	99.8%	Microglass III	Ecoglass III	element
N/A	N/A	N/A	N/A	N/A	4.5	02Q	02QE	02QH
N/A	N/A	4.5	5	6	7	05Q	05QE	05QH
N/A	6	8.5	9	10	12	10Q	10QE	10QH
6	11	17	18	20	22	20Q	20QE	20QH

Note 1: Part numbers featured with bold highlighted codes will ensure a 'standard' product selection.

Note 2: Alternate displayed part number selection will require you to contact Parker Filtration for availability.

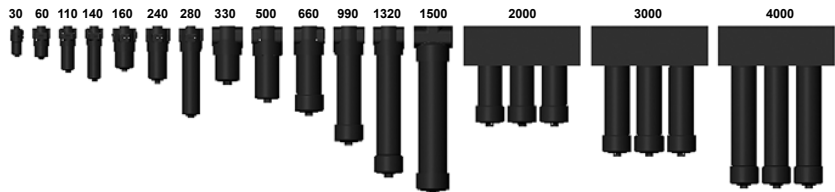




# Pressure Filter DF

## Pressure Filter for Reversible Oil Flow DFF

up to 2000 l/min, up to 420 bar



## 1. TECHNICAL SPECIFICATIONS

### 1.1 FILTER HOUSING

#### Construction

The filter housings are designed in accordance with international regulations. They consist of a filter head with a screw-in filter bowl. DFF filters are suitable for flow in both directions.

Standard equipment:

- connection for a clogging indicator in filter head
- drain screw with pressure relief (size DF 330 and above)
- 1 or 2-piece filter bowl available as an option for DF/DFF 280-660 and DF 2000
- 2-piece filter bowl for size DF/DFF 990 and above

### 1.2 FILTER ELEMENTS

Hydac filter elements are validated and their quality is constantly monitored according to the following standards:

- ISO 2941
- ISO 2942
- ISO 2943
- ISO 3724
- ISO 3968
- ISO 11170
- ISO 16889

#### Contamination retention capacities in g

Betamicon® (BN4HC)					
DF/DFF	Elements	3 µm	5 µm	10 µm	20 µm
30	1x0030 D	4.6	5.1	5.4	5.6
60	1x0060 D	6.5	7.3	7.8	8.0
110	1x0110 D	13.8	15.5	16.4	16.9
140	1x0140 D	18.1	20.3	21.5	22.2
160	1x0160 D	19.8	22.2	23.5	24.3
240	1x0240 D	32.3	36.3	38.4	39.6
280	1x0280 D	70.6	79.3	83.9	86.6
330	1x0330 D	47.2	53.1	56.1	57.9
500	1x0500 D	76.9	86.5	91.5	94.4
660	1x0660 D	102.2	114.9	121.5	125.4
990	1x0990 D	154.5	173.7	183.7	189.5
1320	1x1320 D	209.9	236.0	249.6	257.5
1500	1x1500 D	159.5	170.0	191.3	212.7
2000	3x0660 D	306.6	344.7	364.5	376.2
3000	3x0990 D	463.5	521.1	551.1	568.5
4000	3x1320 D	629.7	708.0	748.8	772.5

Filter elements are available with the following pressure stability values:

Betamicon® (BN4HC):	20 bar
Betamicon® (BH4HC):	210 bar
Wire mesh (W):	20 bar
Stainless steel fibre (V):	210 bar

### 1.3 FILTER SPECIFICATIONS

Nominal pressure	420 bar
Fatigue strength	at nominal pressure 2x10 <sup>6</sup> load cycles from 0 to nominal pressure (size 30 to 1320) 3x10 <sup>5</sup> load cycles at 420 bar (size 1500) 3x10 <sup>6</sup> load cycles at 280 bar (size 1500) 10 <sup>6</sup> load cycles at 315 bar (size 2000-4000)
Temperature range	-30 °C to +100 °C (-30 °C to -10 °C: p <sub>max</sub> = 210 bar)
Material of filter head	EN-GJS 400-15
Material of filter bowl	Steel
Type of clogging indicator	VD (differential pressure indication up to 420 bar operating pressure)
Pressure setting of clogging indicator	5 bar (others on request)
Cracking pressure of bypass, only for DF filters (optional)	6 bar (others on request)

Betamicon® (BH4HC)					
DF/DFF	Elements	3 µm	5 µm	10 µm	20 µm
30	1x0030 D	3.0	2.9	3.2	3.7
60	1x0060 D	4.6	4.5	5.0	5.7
110	1x0110 D	10.1	9.9	10.9	12.4
140	1x0140 D	13.3	13.0	14.3	16.3
160	1x0160 D	12.9	12.6	13.9	15.9
240	1x0240 D	21.6	21.1	23.2	26.5
280	1x0280 D	48.1	47.1	51.8	59.1
330	1x0330 D	34.6	33.9	37.2	42.5
500	1x0500 D	57.5	56.3	61.8	70.5
660	1x0660 D	76.8	75.2	82.6	94.3
990	1x0990 D	111.8	109.4	120.2	137.2
1320	1x1320 D	153.8	150.7	165.5	188.8
1500	1x1500 D	126.4	137.8	160.9	195.3
2000	3x0660 D	230.4	225.6	247.8	282.9
3000	3x0990 D	335.4	328.2	360.6	411.6
4000	3x1320 D	461.4	452.1	496.5	566.4

### 1.4 SEALS

NBR (= Perbunan)

### 1.5 MOUNTING

As inline filter with or without reversible oil flow

### 1.6 SPECIAL MODELS AND ACCESSORIES

- Seals in FPM, EPDM
- With bypass valve (only DF-Filter)
- Oil drain screw up to DF/DFF 280

### 1.7 SPARE PARTS

See Original Spare Parts List

### 1.8 CERTIFICATES AND APPROVALS

On request

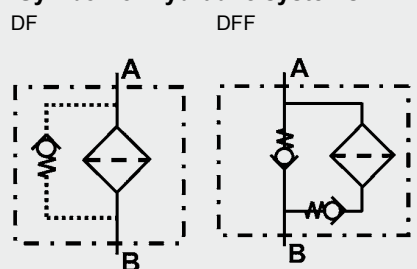
### 1.9 COMPATIBILITY WITH HYDRAULIC FLUIDS ISO 2943

- Hydraulic oils H to HLPD DIN 51524
- Lubrication oils DIN 51517, API, ACEA, DIN 51515, ISO 6743
- Compressor oils DIN 51506
- Biodegradable operating fluids VDMA 24568 HETG, HEES, HEPG
- Non-flam operating fluids HFA, HFB, HFC and HFD
- Operating fluids with high water content (>50% water content) on request

### 1.10 IMPORTANT INFORMATION

- Filter housing must be earthed
- When using electrical clogging indicators, the electrical power supply to the system must be switched off before removing the clogging indicator connector

#### Symbol for hydraulic systems



## 2. MODEL CODE (ALSO ORDER EXAMPLE)

### 2.1 COMPLETE FILTER

Filter type

DF or DFF

Filter material of element

BN/HC Betamicon® (BN4HC)

W

Wire mesh

BH/HC Betamicon® (BH4HC)

V

Stainless steel fibre

Size of filter or element

DF/DFF: 30\*, 60, 110, 140, 160, 240, 280, 330, 500, 660, 990, 1320, 1500, 2000\*, 3000\*, 4000\*

Operating pressure

T 420 bar

Head design

no details inline filter ports

L filter ports in L configuration (DF/DFF 1500 only)

Type and size of port

Type	Port	Filter size															
		30*	60	110	140	160	240	280	330	500	660	990	1320	1500	2000*	3000*	4000*
B	G ½	●															
C	G ¾		●	●	●												
E	G1 ¼					●	●	●									
F	G1 ½								●	●	●	●	●				
G	G2													●			
I	SAE DN 20		●	●	●												
J	SAE DN 32					●	●	●									
L	SAE DN 50								●	●	●	●	●	●	●	●	●
N	SAE DN 80														●	●	●

standard models

Filtration rating in µm

BN/HC, BH/HC, V: 3, 5, 10, 20 W: 25, 50, 100, 200

Type of clogging indicator

Y plastic blanking plug in indicator port

A steel blanking plug in indicator port

B visual

C electrical

D visual and electrical

for other clogging indicators

see brochure no. E 7.050../..

Type code

1 one-piece filter bowl (up to DF/DFF 660; DF 2000)

2 two-piece filter bowl (size DF/DFF 280 and above)

Modification number

X the latest version is always supplied

Supplementary details

B. bypass cracking pressure (e.g. B6 = 6 bar)\*; no details = without bypass valve

L... light with appropriate voltage (24V, 48V, 110V, 220V) ] only for clogging

LED 2 light emitting diodes up to 24 Volt ] indicators Type D

P26 with 26" element (DF/DFF 1500 only)

P39 with 39" element (DF/DFF 1500 only)

SO184 pressure release/oil drain screw (sizes DF/DFF 330 and above)

V FPM seals

W suitable for HFA and HFC oil-water emulsions (only necessary when using a clogging indicator or V or W elements)

\* only possible with DF filters

### 2.2 REPLACEMENT ELEMENT

Size

0030, 0060, 0110, 0140, 0160, 0240, 0280, 0330, 0500, 0660, 0990, 1320, 1500

Type

D

Filtration rating in µm

BN4HC, BH4HC, V: 003, 005, 010, 020

W: 025, 050, 100, 200

Filter material

BN4HC, BH4HC, W, V

Supplementary details

P26, P39, V, W (for descriptions, see point 2.1)

### 2.3 REPLACEMENT CLOGGING INDICATOR

Type

VD differential pressure indicator up to 420 bar operating pressure

Pressure setting

5 5 bar standard, others on request

Type of clogging indicator (see point 2.1)

Modification number

X the latest version is always supplied

Supplementary details

L..., LED, V, W (for descriptions, see point 2.1)

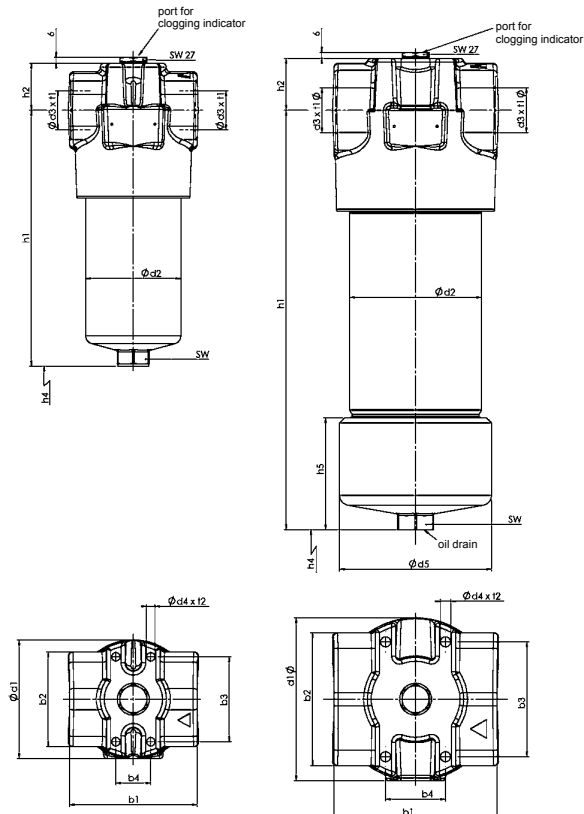
DF BN/HC 1500 T L L 10 D 1 . X /-L24

1500 D 010 BN4HC /-V

VD 5 D . X /-L24

#### 4. DIMENSIONS

DF 30, DF/DFE 60 to 1500 (inline filter ports)



Type	b1	b2	b3	b4	d1	d2	d3	d4	d5	h1	h2	h4	h5	SW	t1	t2	Weight including element [kg]	Vol. of pressure chamber [l]
30 ... B ... 1.X	68	38	45	30	69	52	G ½	M5	-	131.5	38	75	-	24	14	6	2.3	0.13
60 ... C ... 1.X	90	71	56	32	86	68	G ¾	M6	-	140	40	85	-	27	17	9	4.5	0.20
60 ... I ... 1.X	89	71	56	32	86	68	SAE DN 20	M6	-	140	40	85	-	27	-	9	4.5	0.20
110 ... C ... 1.X	90	71	56	32	86	68	G ¾	M6	-	209.5	40	85	-	27	17	9	5.4	0.33
110 ... I ... 1.X	89	71	56	32	86	68	SAE DN 20	M6	-	209.5	40	85	-	27	-	9	5.4	0.33
140 ... C ... 1.X	89	71	56	32	86	68	G ¾	M6	-	250.5	40	85	-	27	17	9	6.0	0.40
140 ... I ... 1.X	89	71	56	32	86	68	SAE DN 20	M6	-	250.5	40	85	-	27	-	9	6.0	0.40
160 ... E ... 1.X	125	95	85	35	119	95	G1¼	M10	-	196.5	47	105	-	32	21	14	10.3	0.60
160 ... J ... 1.X	125	95	85	35	119	95	SAE DN 32	M10	-	196.5	47	105	-	32	-	14	10.3	0.60
240 ... E ... 1.X	125	95	85	35	119	95	G1¼	M10	-	256	47	105	-	32	21	14	11.8	0.80
240 ... J ... 1.X	125	95	85	35	119	95	SAE DN 32	M10	-	256	47	105	-	32	-	14	11.8	0.80
280 ... E ... 1.X	125	95	85	35	119	95	G1¼	M10	-	438	47	105	-	32	21	14	16.3	1.60
280 ... J ... 1.X	125	95	85	35	119	95	SAE DN 32	M10	-	438	47	105	-	32	-	14	16.3	1.60
330 ... F ... 1.X	160	133	115	60	163	130	G1½	M12	-	257.5	52	115	-	36	23	17	24.5	1.50
330 ... L ... 1.X	160	133	115	60	163	130	SAE DN 50	M12	-	257.5	52	115	-	36	-	17	24.5	1.50
500 ... F ... 1.X	160	133	115	60	163	130	G1½	M12	-	350.5	52	115	-	36	23	17	28.6	2.30
500 ... L ... 1.X	160	133	115	60	163	130	SAE DN 50	M12	-	350.5	52	115	-	36	-	17	28.6	2.30
660 ... F ... 1.X	160	133	115	60	163	130	G1½	M12	-	428	52	115	-	36	23	17	31.6	3.00
660 ... L ... 1.X	160	133	115	60	163	130	SAE DN 50	M12	-	428	52	115	-	36	-	17	31.6	3.00
330 ... F ... 2.X	160	133	115	60	163	132	G1½	M12	152	254	52	180	112	36	23	17	27.4	1.50
330 ... L ... 2.X	160	133	115	60	163	132	SAE DN 50	M12	152	254	52	180	112	36	-	17	27.4	1.50
500 ... F ... 2.X	160	133	115	60	163	132	G1½	M12	152	343	52	270	112	36	23	17	31.5	2.30
500 ... L ... 2.X	160	133	115	60	163	132	SAE DN 50	M12	152	343	52	270	112	36	-	17	31.5	2.30
660 ... F ... 2.X	160	133	115	60	163	132	G1½	M12	152	420	52	350	112	36	23	17	34.4	3.00
660 ... L ... 2.X	160	133	115	60	163	132	SAE DN 50	M12	152	420	52	350	112	36	-	17	34.4	3.00
990 ... F ... 2.X	160	133	115	60	163	132	G1½	M12	152	576	52	500	112	36	23	17	43.4	4.20
990 ... L ... 2.X	160	133	115	60	163	132	SAE DN 50	M12	152	576	52	500	112	36	-	17	43.4	4.20
1320 ... F ... 2.X	160	133	115	60	163	132	G1½	M12	152	742	52	670	112	36	23	17	51.1	5.60
1320 ... L ... 2.X	160	133	115	60	163	132	SAE DN 50	M12	152	742	52	670	112	36	-	17	51.1	5.60
1500 ... G ... 2.X	196	134	110	54	176	152	G2	M12	172	822.5	60	700	112	36	30	22	69.3	8.20
1500 ... L ... 2.X	196	134	110	54	176	152	SAE DN 50	M12	172	822.5	60	700	112	36	-	22	69.3	8.20

B, C, E, F, G = threaded connection

I, J, L = flange connection to DIN ISO 6162, 6000 psi with metric thread



# FPK03&04-AP420

## In-Line High Pressure Filters up to 420 bar

### Technical Data

- Filter head casting in spheroidal cast iron.
- Extruded steel bowl.
- Operating pressure at 42 MPa (420 bar)
- Static pressure testing at 63 MPa (630 bar).
- Fatigue pressure of 2.000.000 cycles at 0 - 30 MPa (0 - 300 bar) per NFPA T 3.10.5.1.
- By-pass valve setting 600 kPa (6 bar) per ISO 3968.
- Reverse flow valve which allows fluid to pass through the element in one direction but to by-pass the element when the flow is reversed. State letter "V" while placing the order.
- Operating temperature -20 +120°C.
- Compatibility hydraulic fluids per ISO 2943.
- Flow rate and pressure drop per ISO3968 with oil kinematic viscosity 30 cSt at 40°C and density 0,875 kg/dm³.
- Ports threaded per ISO 228/1 or flanged per SAE J518-6000 PSI
- Tapped predisposition for indicator.



### Filter Elements

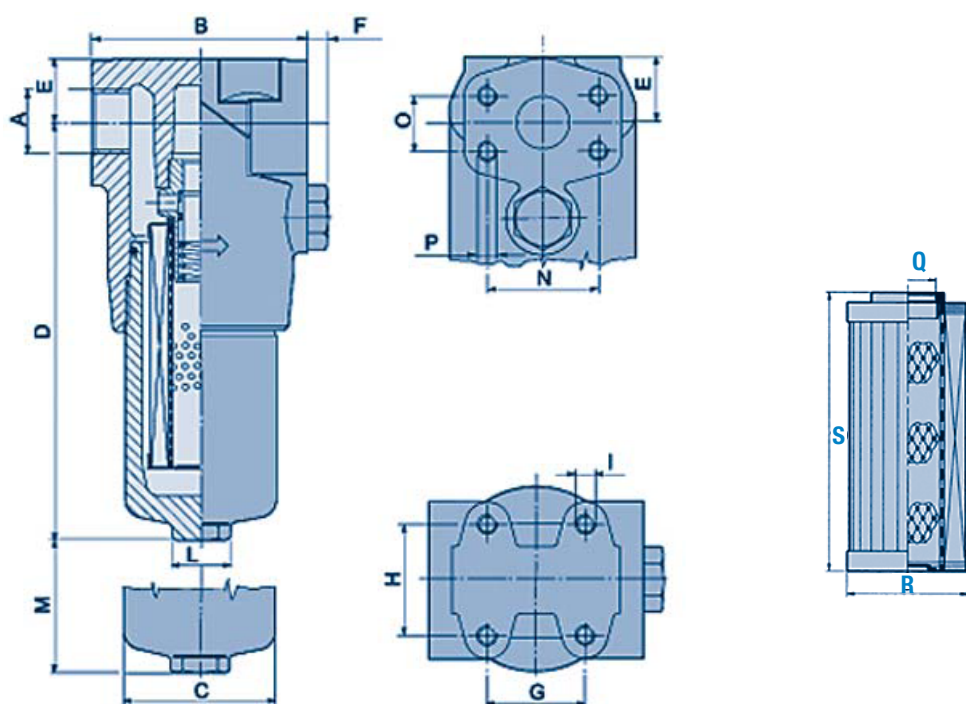
- Synteq® synthetic media (5 - 10 - 25 micron), reinforced with wire mesh.
- Collapse resistance 2 MPa (20 bar) per ISO 2941. (They can also be supplied at 21 MPa (210 bar) on customer's request).

# FPK03&04-AP420

## In-Line High Pressure Filters

### up to 420 bar

## Spesifications



	/03			/02			/01	
	SYNTHETIC MEDIA							
	$\beta_{23(c)}=1000$			$\beta_{11(c)}=1000$			$\beta_{8(c)}=1000$	
FLOW l/min	TYPE	ELEMENT	FLOW l/min	TYPE	ELEMENT	FLOW l/min	TYPE	ELEMENT
50	K030286 AP 361.03	P171733 AP 451.53	50	K030285 AP 361.02	P171732 AP 451.52	40	K030284 AP 361.01	P171731 AP 451.51
80	K030289 AP 362.03	P171736 AP 452.53	80	K030288 AP 362.02	P171735 AP 452.52	60	K030287 AP 362.01	P171734 AP 452.51
80	K030292 AP 362.08	P171736 AP 452.53	80	K030291 AP 362.07	P171735 AP 452.52	60	K030290 AP 362.06	P171734 AP 452.51
120	K030295 AP 363.03	P171739 AP 453.53	120	K030294 AP 363.02	P171738 AP 453.52	80	K030293 AP 363.01	P171737 AP 453.51
120	K030298 AP 363.08	P171739 AP 453.53	120	K030297 AP 363.07	P171738 AP 453.52	80	K030296 AP 363.06	P171737 AP 453.51
180	K040676 AP 364.03	P171742 AP 454.53	180	K040675 AP 364.02	P171741 AP 454.52	160	K040674 AP 364.01	P171740 AP 454.51
180	K040679 AP 364.08	P171742 AP 454.53	180	K040678 AP 364.07	P171741 AP 454.52	160	K040677 AP 364.06	P171740 AP 454.51
300	K040682 AP 365.03	P171745 AP 455.53	300	K040681 AP 365.02	P171744 AP 455.52	270	K040680 AP 365.01	P171743 AP 455.51
300	K040685 AP 365.08	P171745 AP 455.53	300	K040684 AP 365.07	P171744 AP 455.52	270	K040683 AP 365.06	P171743 AP 455.51
400	K040688 AP 366.03	P171748 AP 456.53	400	K040687 AP 366.02	P171747 AP 456.52	320	K040686 AP 366.01	P171746 AP 456.51
400	K040691 AP 366.08	P171748 AP 456.53	400	K040690 AP 366.07	P171747 AP 456.52	320	K040689 AP 366.06	P171746 AP 456.51

# FPK02&04-AP220

## In-Line High Pressure Filters up to 420 bar

### Technical Data

- Filter head casting in spheroidal cast iron.
- Extruded steel bowl.
- Operating pressure at 30 MPa (300 bar)
- Static pressure testing at 63 MPa (630 bar).
- Fatigue pressure of 2.000.000 cycles at 0 - 30 MPa (0 - 300 bar) per NFPA T 3.10.5 R2:2000
- By-pass valve setting 350 kPa (3,5 bar) per ISO3968 for K020171 to K020177 and 600 kPa (6 bar) for K041585 to K041593.
- Operating temperature -20 +120°C.
- Compatibility hydraulic fluids per ISO 2943.
- Flow rate and pressure drop per ISO3968 with oil kinematic viscosity 30 cSt at 40°C and density 0,875 kg/dm<sup>3</sup>.
- Ports threaded per ISO 228/1.



### Filter Elements

- Synteq® synthetic media (5 - 10 - 25 micron), reinforced with wire mesh
- Collapse resistance 2 MPa (20 bar) per ISO 2941. (They can also be supplied at 21 MPa (210 bar) on customer's request).

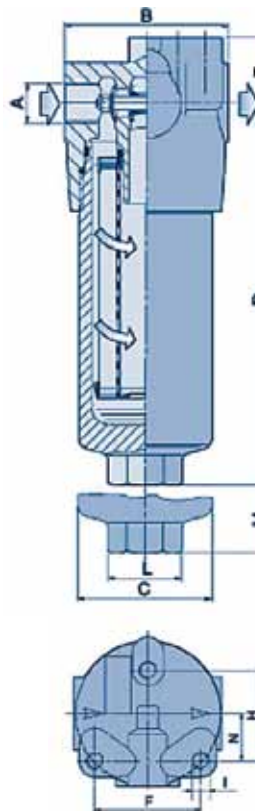


# FPK02&04-AP220

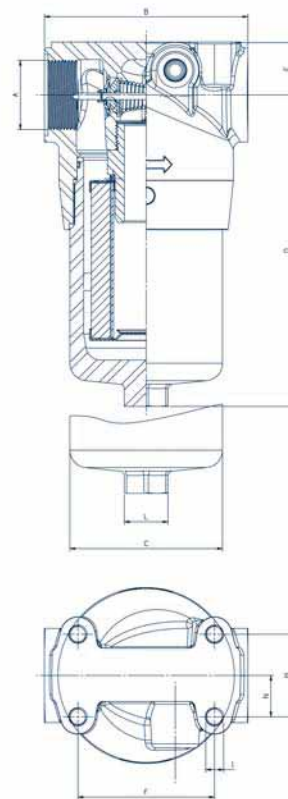
## In-Line High Pressure Filters

### up to 420 bar

## Spesifications



AP 221/ 222



AP 223 / 224 / 225

	/03			/02			/01		
	SYNTHETIC MEDIA								
	$\beta_{23(c)}=1000$			$\beta_{11(c)}=1000$			$\beta_{8(c)}=1000$		
FLOW l/min	TYPE	ELEMENT	FLOW l/min	TYPE	ELEMENT	FLOW l/min	TYPE	ELEMENT	
50	K020173 AP 221.03	P169797 AP 472.53	40	K020172 AP 221.02	P169447 AP 472.52	30	K020171 AP 221.01	P169446 AP 472.51	
90	K020177 AP 222.03	P169450 AP 473.53	80	K020176 AP 222.02	P169449 AP 473.52	70	K020175 AP 222.01	P169798 AP 473.51	
180	K041585 AP 223.03	P164172 AP 474.53	150	K041588 AP 223.02	P164164 AP 474.52	120	K041591 AP 223.01	P164592 AP 474.51	
350	K041586 AP 224.03	P164174 AP 475.53	300	K041589 AP 224.02	P164166 AP 475.52	250	K041592 AP 224.01	P164594 AP 475.51	
450	K041587 AP 225.03	P164176 AP 476.53	400	K041590 AP 225.02	P164168 AP 476.52	350	K041593 AP 225.01	P164596 AP 476.51	

# 1.1.4

# Rustfrie høytrykksfilter



## FF7120 Series High Pressure Filters

### Custom Value Proposition

A high pressure filter series designed with a Stainless Steel housing ensures maximum system protection.

A quality filter available in 2 bowl lengths for hydraulic system designers working in applications such as offshore and marine.

### Product Features:

- Stainless Steel 316 housing design.
- 420 bar maximum operating pressure.
- ATEX category 2 rated design.
- Microglass III media ensures quality filtration.
- Visual and electrical indicator options.
- Operating temperature -20° C + 120° C



## FF7120 Series High Pressure Filters

### Features & Benefits

Features	Advantages	Benefits
Stainless Steel housing	Suitable for offshore applications	Durable filter solution
Compact design	Small space envelope required	Easy integration of filter in system
Fatigue tested design	High design safety level	Suitable for heavy duty applications
ATEX rated design	Filter can be applied in ATEX rated zones	Certification included with filter
Microglass III media	High contamination removal efficiency	Improved system protection

### Typical Applications

- Offshore hydraulic applications
- Chemical injection
- Marine applications
- Drilling and mining equipment

### The Parker Filtration FF7120 Series High Pressure Filters

The Parker FF7121 and FF7122 high pressure filters feature a Stainless Steel housing. With blocked bypass, these filters are designed to provide maximum protection to the hydraulic system.

Parker's filter media technology ensures that contamination is removed effectively from the fluid under dynamic operating conditions subject to flow and pressure variations.

## FF7120 Series High Pressure Filters

### Specifications

#### Operating pressure:

Max. 420 bar

#### Fatigue pressure:

1-420 bar

Number of cycles: 1,000,000

#### Burst pressure:

630 bar

#### Assembly:

In-line

#### Connections:

Threaded G1/2" ports

Optional NPT ports

#### Filter housing:

Stainless steel 316 grade

#### Seal material:

Nitrile, Fluoroelastomer

#### Operating temperature:

-20° C + 120° C

#### Bypass setting:

Blocked

#### Degree of filtration

Determined by multipass test in accordance with ISO16889

#### Flow fatigue characteristics:

Filter media is supported so that the optimum fatigue life is achieved Filtration media = Microglass III

#### Element collapse pressure:

210 bar (ISO 2941)

#### Pressure indicator options:

Setting 7 bar

Visual differential pressure indicator Electrical differential pressure indicator

#### ATEX Certification filter housing:

Atex category 2

Product group Ex-equipment

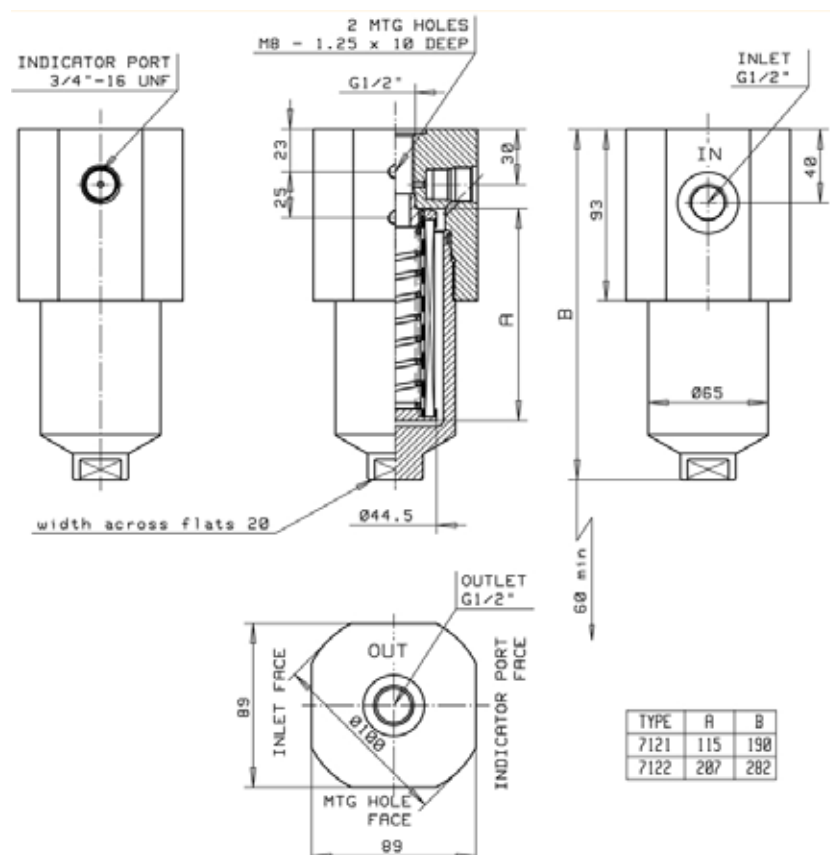
Product sub-group Non

#### Options:

ATEX rated indicator (II 2GD Eex MII T6)

#### Filter element:

Conventional style element with steel end caps



# FF7120 Series

## High Pressure Filters

## Ordering Information

ORDERING EXAMPLE: FF7121 FILTER

Box 1	Box 2	Box 3	Box 4	Box 5	Box 6	Box 7	Box 8
FF	7121	A010	V	00	GL08	V70	

PART NUMBER MATRIX:

Box 2	Code
Element length 116 mm	7121
Element length 208 mm	7122

Box 3	Degree of Filtration
Element	Filtration fineness absolute
	Q3 glassfibre 8x(c) >200, High Strength Elements
	Q02 (2 micron) Q05 (5 micron) Q10 (10 micron) Q20 (20 micron)
	Code Code Code Code
Disposable element	A002 A005 A010 A020

Box 4	
Nitrile	B
Fluoroelastomer	V

Box 5	Bypass Valve
Bypass Valve	Code
Blocked	00

Box 6	Filter Connection
Ports	Code
G1/2 Thread	GL08

Box 7	Indicator
Visual indicator 7 bar	V70
Electrical indicator 7 bar	T70

Alex rated indicator (electrical) on request. Visual indicator is certified for Alex category 2, non electrical equipment

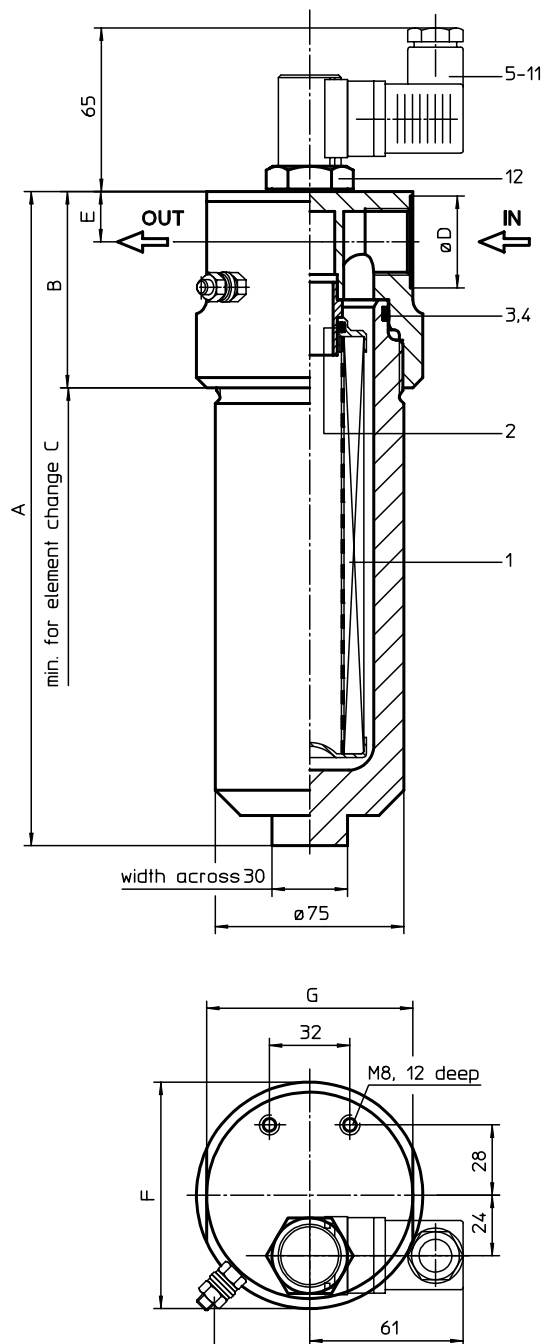
Box 8	Options
No options	Code

Degree of filtration						Media code
Average filtration beta ratio $\beta$ (ISO 16889) / particle size $\mu\text{m}$ [c]						
$\beta x(c)=2$	$\beta x(c)=10$	$\beta x(c)=75$	$\beta x(c)=100$	$\beta x(c)=200$	$\beta x(c)=1000$	
% efficiency, based on the above beta ratio ( $\beta x$ )						
50.0%	90.0%	90.7%	99.0%	99.5%	99.9%	
N/A	N/A	N/A	N/A	N/A	4.5	
N/A	N/A	4.5	5	6	7	
N/A	6	8.5	9	10	12	
6	11	17	18	20	22	



# Stainless Steel - Pressure Filter

## Series EH 60-150 DN 15-25 PN 420



connection for the  
potential equalisation,  
only for application  
in the explosive area

### 1. Type index:

#### 1.1. Complete filter: (ordering example)

EH.	90.	10VG.	HR.	E.	P.	VA.	G.	4.	VA.	-	AE
1	2	3	4	5	6	7	8	9	10	11	12

- 1 **series:**  
EH = stainless steel-pressure filter
- 2 **nominal size:** 60, 90, 150
- 3 **filter-material and filter-fineness:**  
80G = 80  $\mu$ m, 40G = 40  $\mu$ m,  
25G = 25  $\mu$ m stainless steel wire mesh  
25 VG = 20  $\mu$ m<sub>(c)</sub>, 16 VG = 15  $\mu$ m<sub>(c)</sub>, 10 VG = 10  $\mu$ m<sub>(c)</sub>,  
6 VG = 7  $\mu$ m<sub>(c)</sub>, 3 VG = 5  $\mu$ m<sub>(c)</sub> Interpor fleece (glass fibre)
- 4 **resistance of pressure difference for filter element:**  
30 =  $\Delta$ p 30 bar  
HR =  $\Delta$ p 160 bar (rupture strength  $\Delta$ p 250 bar)
- 5 **filter element design:**  
E = single-end open
- 6 **sealing material:**  
P = Nitrile (NBR)  
V = Viton (FPM)
- 7 **filter element specification:** (see catalog)  
- = standard  
VA = stainless steel  
IS06 see sheet-no. 31601
- 8 **connection:**  
G = thread connection according to ISO 228
- 9 **connection size:**  
3 = G 1/2  
4 = G 3/4  
5 = G 1
- 10 **filter housing specification:**  
VA = stainless steel
- 11 **internal valve:**  
- = without  
S1 = with by-pass valve  $\Delta$ p 3,5 bar  
S2 = with by-pass valve  $\Delta$ p 7,0 bar  
R = reversing valve, Q  $\leq$  70,06 l/min
- 12 **clogging indicator or clogging sensor :**  
- = without  
AOR = visual, see sheet-no. 1606  
AOC = visual, see sheet-no. 1606  
AE = visual-electrical, see sheet-no. 1615  
VS1 = electronic, see sheet-no. 1617  
VS2 = electronic, see sheet-no. 1618

#### 1.2. Filter element: (ordering example)

01E.	90.	10VG.	HR.	E.	P.	VA
1	2	3	4	5	6	7

- 1 **series:**  
01E. = filter element according to INTERNORMEN factory specification
- 2 **nominal size:** 60, 90, 150
- 3 - 7 see type index-complete filter

### 2. Dimensions:

type	connection	A	B	C	D	E	F	G	weight kg	volume tank
EH 60	G 1/2	195	78	215	30	20	90	82	8,5	0,3 l
EH 90	G 3/4	260	78	280	36,5	20	90	82	9,5	0,4 l
EH 150	G 1	370	84	390	40	23	95	84	12,5	0,6 l

Connection assignments as shown in the table are standard. To exchange connections see item 9 in type index..

### 3. Spare parts:

item	qty.	designation	dimension			article-no.	
			EH 60	EH 90	EH 150		
1	1	filter element	01E.60	01E.90	01E.150		
2	1	O-ring		22 x 3,5		304341 (NBR)	304392 (FPM)
3	1	O-ring		56 x 3		305072 (NBR)	305322 (FPM)
4	1	support ring		63 x 2,6 x 1		312309	
5	1	clogging indicator, visual		AOR or AOC		see sheet no. 1606	
6	1	clogging indicator, visual-electrical		AE		see sheet no. 1615	
7	1	clogging sensor, electronical		VS1		see sheet no. 1617	
8	1	clogging sensor, electronical		VS2		see sheet no. 1618	
9	1	O-ring		15 x 1,5		315357 (NBR)	315427 (FPM)
10	1	O-ring		22 x 2		304708 (NBR)	304721 (FPM)
11	1	O-ring		14 x 2		304342 (NBR)	304722 (FPM)
12	1	screw plug		20913-4		314442	

item 12 execution only without clogging indicator or clogging sensor

### 4. Description:

The pressure filters of the series EH are suitable for a working pressure up to 420 bar.

The pressure peaks are absorbed by a sufficient margin of safety. The EH-filter is in-line mounted.

The filter element consists of star-shaped, pleated filter material which is supported on the inside by a perforated core tube and is bonded to the end caps with a high-quality adhesive. The flow direction is from outside to inside. Filter elements are available down to a filter fineness of  $4\mu\text{m}_{(c)}$ .

INTERNORMEN-Filter elements are known as elements with a high intrinsic stability and an excellent filtration capability, a high dirt-retaining capacity and a long service life.

INTERNORMEN-Filter are suitable for all petroleum based fluids, HW-emulsions, most synthetic hydraulic fluids and lubrication oils.

INTERNORMEN-Filter elements are available up to a pressure difference resistance of  $\Delta p$  160 bar and a rupture strength of  $\Delta p$  250 bar.

The internal valves are integrated into the centering pivot for the filter element.

After reaching the opening pressure the by-pass valve causes that an unfiltered partial flow passes the filter. With the reverse valve a protection of the filter element is given when having a reverse flow inside the filter. The reverse flow will not be filtered.

### 5. Technical data:

temperature range:

- 10°C to +80°C (for a short time +100°C)

operating medium:

mineral oil, other media on request

max. operating pressure:

420 bar

test pressure:

546 bar

connection system:

thread connection according to ISO 228

housing material:

DIN 17440 - 1.4571 (320 S 18, 320 S 31 according to B.S.)

sealing material:

Nitrile (NBR) or Viton (FPM), other materials on request

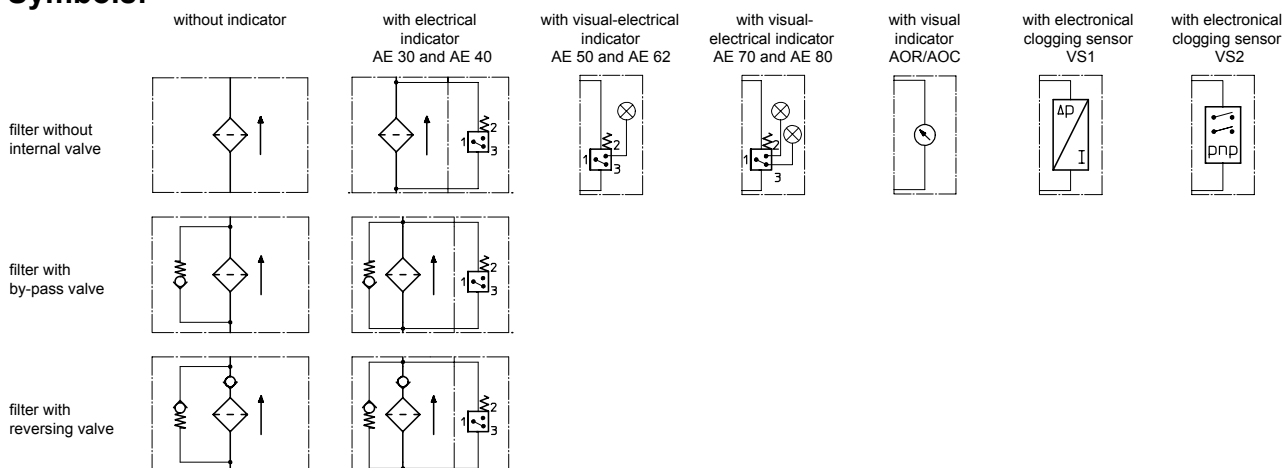
installation position:

vertical

Classified under the Pressure Equipment Directive 97/23/EC for mineral oil (fluid group 2), Article 3, Para. 3.

Classified under ATEX Directive 94/9/EC according to specific application (see questionnaire sheet-no. 34279-4).

### 6. Symbols:



### 7. Pressure drop flow curves:

Precise flow rates see 'INT-Expert-System Filter', respectively  $\Delta p$ -curves; depending on filter fineness and viscosity.

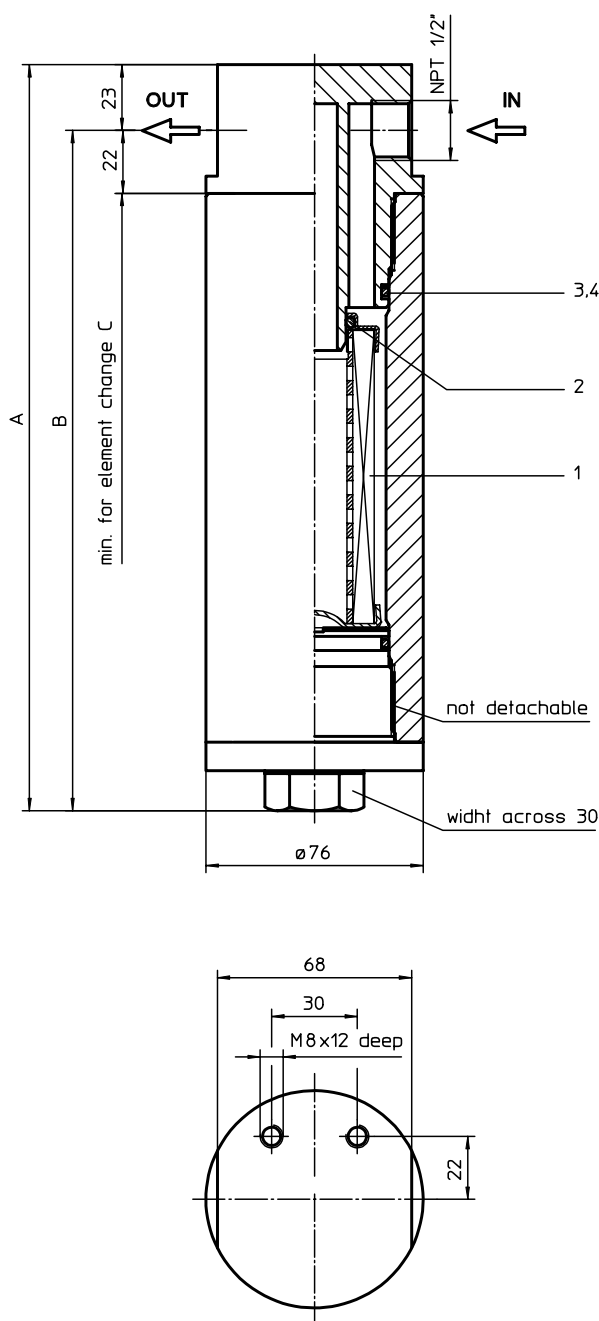
### 8. Test methods:

Filter elements are tested according to the following ISO standards:

- ISO 2941 Verification of collapse/burst resistance
- ISO 2942 Verification of fabrication integrity
- ISO 2943 Verification of material compatibility with fluids
- ISO 3723 Method for end load test
- ISO 3724 Verification of flow fatigue characteristics
- ISO 3968 Evaluation of pressure drop versus flow characteristics
- ISO 16889 Multi-pass method for evaluating filtration performance

# Stainless Steel - Pressure Filter

## Series EHP 60-90 DN 15 PN 700/1400



### 1. Type index:

#### 1.1. Complete filter: (ordering example)

**EHP. 90. 10VG. HR. E. P. VA. NPT. 3. VA. 700**

1	2	3	4	5	6	7	8	9	10	11
---	---	---	---	---	---	---	---	---	----	----

- 1 **series:**  
EHP = stainless steel-pressure filter
- 2 **nominal size:** 60, 90
- 3 **filter-material and filter-fineness:**  
80G = 80  $\mu$ m, 40G = 40  $\mu$ m,  
25G = 25  $\mu$ m stainless steel wire mesh  
25 VG = 20  $\mu$ m<sub>(c)</sub>, 16 VG = 15  $\mu$ m<sub>(c)</sub>, 10 VG = 10  $\mu$ m<sub>(c)</sub>,  
6 VG = 7  $\mu$ m<sub>(c)</sub>, 3 VG = 5  $\mu$ m<sub>(c)</sub> Interpor fleece (glass fibre)
- 4 **resistance of pressure difference for filter element:**  
30 =  $\Delta$ p 30 bar  
HR =  $\Delta$ p 160 bar (rupture strength  $\Delta$ p 250 bar)
- 5 **filter element design:**  
E = single-end open
- 6 **sealing material:**  
P = Nitrile (NBR)  
V = Viton (FPM)
- 7 **filter element specification:** (see catalog)  
- = standard  
VA = stainless steel  
IS06 see sheet-no. 31601
- 8 **connection:**  
NPT = thread connection
- 9 **connection size:**  
3 = NPT 1/2
- 10 **filter housing specification:**  
VA = stainless steel
- 11 **pressure level:**  
700 = max. operating pressure 700 bar  
1400 = max. operating pressure 1400 bar

#### 1.2. Filter element: (ordering example)

**01E. 90. 10VG. HR. E. P. VA**

1	2	3	4	5	6	7
---	---	---	---	---	---	---

- 1 **series:**  
01E. = filter element according to INTERNORMEN factory specification
- 2 **nominal size:** 60, 90
- 3 - 7 see type index-complete filter

### 2. Dimensions:

type	EHP 60	EHP 90
A	261	326
B	238	303
C	360	425
weight kg	8,5	9,7
volume tank	0,3 l	0,4 l

### 3. Spare parts:

item	qty.	designation	dimension		article-no.	
			EHP 60	EHP 90		
1	1	filter element	01E.60	01E.90		
2	1	O-ring	22 x 3,5		304341 (NBR)	304392 (FPM)
3	1	O-ring	45 x 3		304991 (NBR)	304997 (FPM)
4	1	support ring	52 x 2,6 x 1		311013	

### 4. Description:

The pressure filters of the series EHP are suitable for a working pressure up to 700 respectively 1400 bar.

The pressure peaks are absorbed by a sufficient margin of safety. The EHP-filter is in-line mounted.

The filter element consists of star-shaped, pleated filter material which is supported on the inside by a perforated core tube and is bonded to the end caps with a high-quality adhesive. The flow direction is from outside to inside. Filter elements are available down to a filter fineness of 4µm<sub>(c)</sub>.

INTERNORMEN-Filter elements are known as elements with a high intrinsic stability and an excellent filtration capability, a high dirt-retaining capacity and a long service life.

INTERNORMEN-Filter are suitable for all petroleum based fluids, HW-emulsions, most synthetic hydraulic fluids and lubrication oils.

INTERNORMEN-Filter elements are available up to a pressure difference resistance of Δp 160 bar and a rupture strength of Δp 250 bar.

### 5. Technical data:

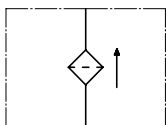
temperature range:	- 10°C to +80°C (for a short time +100°C)
operating medium:	mineral oil, other media on request
max. operating pressure:	700 bar 1400 bar
test pressure:	1000 bar 2000 bar
connection system:	thread connection
housing material:	EN10088-3 - 1.4418 + QT900
sealing material:	Nitrile (NBR) or Viton (FPM), other materials on request
installation position:	vertical

Pressure stage 700: Classified under the Pressure Equipment Directive 97/23/EC for mineral oil (fluid group 2), Article 3, Para 3.

Pressure stage 1400: Classified under the Pressure Equipment Directive 97/23/EC for mineral oil (fluid group 2), Article 3, Para 1.1.b) Category I (Modul A)

Classified under ATEX Directive 94/9/EC according to specific application (see questionnaire sheet-no. 34279-4).

### 6. Symbol:



### 7. Pressure drop flow curves:

Precise flow rates see 'INT-Expert-System Filter', respectively Δp-curves; depending on filter fineness and viscosity.

### 8. Test methods:

Filter elements are tested according to the following ISO standards:

ISO 2941	Verification of collapse/burst resistance
ISO 2942	Verification of fabrication integrity
ISO 2943	Verification of material compatibility with fluids
ISO 3723	Method for end load test
ISO 3724	Verification of flow fatigue characteristics
ISO 3968	Evaluation of pressure drop versus flow characteristics
ISO 16889	Multi-pass method for evaluating filtration performance

## 12S Series High Pressure Filters



# 12S Series

## 12SMP (10,000 psi) Specifications

### Pressure Ratings:

Maximum Allowable Operating Pressure (MAOP): 10,000 psi (690 bar)  
Proof: 15,000 psi (1035 bar)

### Operating Temperatures:

Fluorocarbon (FKM) -15°F (-26°C) to 275°F (-135°C)  
Ethylene Propylene (EPR) -40°F (-40°C) to 225°F (-107°C)  
Perfluoroelastomer (FFKM) 5°F (-15°C) to 536°F (280°C)\*

### Element Collapsing Rate:

High Collapse "H" option: 2,000 psi (138 bar)

### Materials:

Head: Stainless Steel 316L  
Bowl: Stainless Steel 316L

### Weight (approximate):

Model	Single Length	Double Length
12SMP	14 lbs. (6.35 kg.)	17 lbs. (7.71 kg.)

\* Consult factory when requesting this seal. A special element may be required to withstand operating temperature.

## 12SHP (20,000 psi) Specifications

### Pressure Ratings:

Maximum Allowable Operating Pressure (MAOP): 20,000 psi (1,380 bar)  
Proof: 30,000 psi (2,070 bar)

### Operating Temperatures:

Fluorocarbon (FKM) -15°F (-26°C) to 275°F (-135°C)  
Ethylene Propylene (EPR) -40°F (-40°C) to 225°F (-107°C)  
Perfluoroelastomer (FFKM) 5°F (-15°C) to 536°F (-280°C)\*

### Element Collapsing Rate:

High Collapse "H" option: 2,000 psi (138 bar)

### Materials:

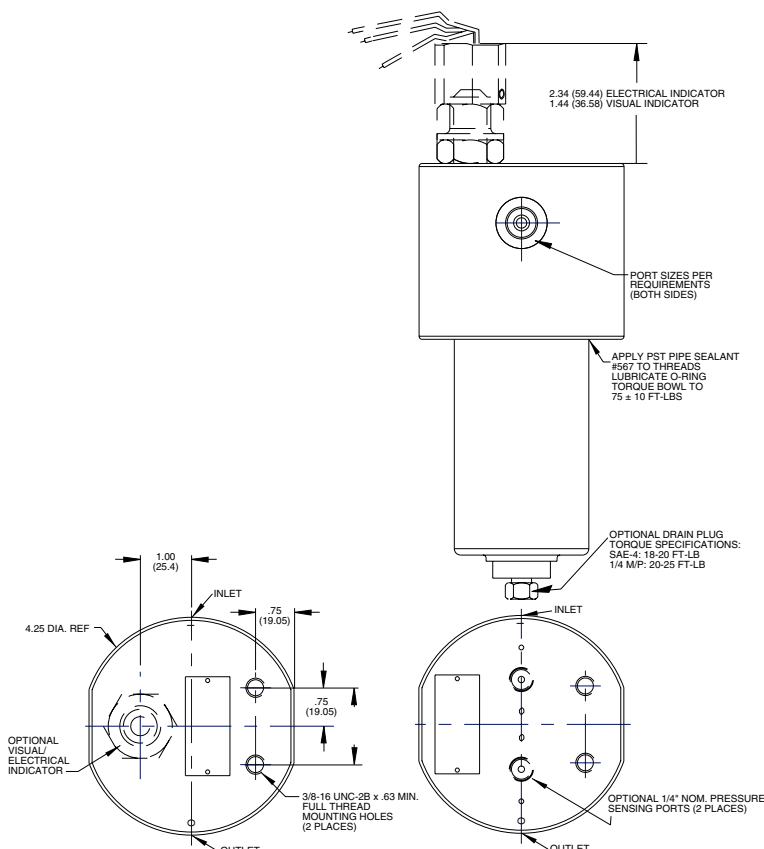
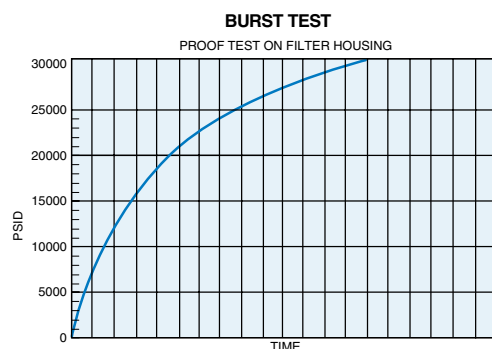
Head: Stainless Steel 17-4  
Bowl: Stainless Steel 17-4

### Weight (approximate):

Model	Single Length	Double Length
12SHP	14 lbs. (6.35 kg.)	17 lbs. (7.71 kg.)

\* Consult factory when requesting this seal. A special element may be required to withstand operating temperature.

## Dimensions



## 12S Series

### HOW TO ORDER:

Select the desired symbol (in the correct position) to construct a model code.

#### Assembly Example:

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8
<b>P9</b>	<b>12SHP</b>	<b>1</b>	<b>10QH</b>	<b>SP</b>	<b>HP</b>	<b>10</b>	<b>11</b>

BOX 1: Seals	
Symbol	Description
None	Fluorocarbon (FKM)
E8	Ethylene Propylene (EPR)
P9	Perfluoroelastomer (FFKM)

BOX 2: Basic Assembly	
Symbol	Description
12SMP	10,000 psi MAOP (316 SS)
12SHP	20,000 psi MAOP (17-4 SS)

BOX 3: Length	
Symbol	Description
1	Single
2	Double

BOX 4: Element Media	
Symbol	Description
20QH	20 m Microglass III, 2000 psid collapse
10QH	10 m Microglass III, 2000 psid collapse
05QH	5 m Microglass III, 2000 psid collapse
02QH	2 m Microglass III, 2000 psid collapse

BOX 5: Indicator	
Symbol	Description
N	No indicator, no pressure port
E250 <sup>1,2</sup>	Electrical/Visual (DIN), 50 psid setting
M250 <sup>1,2</sup>	Visual auto reset, 50 psid setting
SP <sup>3</sup>	1/4" pressure ports only
Notes:	<ol style="list-style-type: none"> <li>1. Available for operating pressure &lt;6,000 psi only.</li> <li>2. Mineral base and synthetic hydraulic fluids only.</li> <li>3. Pressure ports will match port types selected in Box 6.</li> </ol>

BOX 6: Port Type <sup>3</sup>	
Symbol	Description
S <sup>1</sup>	SAE O-ring port
N <sup>2</sup>	NPTF port
MP	Medium pressure Autoclave type port
HP	High pressure Autoclave type port
Notes:	<ol style="list-style-type: none"> <li>1. Available for operating pressure &lt;6,000 psi only.</li> <li>2. Available for operating pressure &lt;10,000 psi only.</li> <li>3. For Socket Weld or other port options, please contact Hydraulic Filter Division.</li> </ol>

BOX 7: Port Size		
Symbol	Description	Type
4	1/4" Nominal	S, N, MP, HP
6	3/8" Nominal	S, MP, HP
8	1/2" Nominal	S, N
10	9/16" Nominal	S, MP, HP
12	3/4" Nominal	S, N, MP
16	1" Nominal	S, N

BOX 8: Options	
Symbol	Description
11	No bypass (standard)
21 <sup>1</sup>	No bypass and 1/4" drain port
Note:	1. Drain port will be SAE-4 or 1/4 M/P as required.

### REPLACEMENT ELEMENTS

Filter Model (Fluorocarbon seals)		
Media	12SMP-1/12SHP-1	12SMP-2/12SHP-2
20QH	403400	403404
10QH	403399	403403
05QH	403398	403402
02QH	403397	403401





## SH100 Series High Pressure Filters Max 100 l/min - 690 bar



# High Pressure In-Line Stainless Steel Filters SH100 Series

## SPECIFICATION

### Assembly:

In-line filter

### Operating Pressure:

Max 690 bar

### Connections:

Threads G<sup>1</sup>/<sub>2</sub>, G<sup>3</sup>/<sub>4</sub>" (ISO228), <sup>1</sup>/<sub>2</sub>"NPT, <sup>3</sup>/<sub>4</sub>"NPT, <sup>3</sup>/<sub>4</sub>" SAE

### Seal Material:

Nitrile, Neoprene, Fluoroelastomer

### Operating Temperature Range:

-40°C to 100°C

### Degree of Filtration:

Determined by multipass test according to ISO 16889

### Filtration Media:

HPFE glass fibre GDH multi layer glass fibre or Stainless Steel mesh

### Flow Fatigue Characteristics

Filter media is supported so that the optimal fatigue life is achieved

### Element Collapse Rating:

20 bar (ISO 2941) or 210 bar for high strength version

### Bypass Setting:

3.5 bar ± 0.2

### Differential Pressure Indicator:

2.8 bar

Differential indicator visual

Differential indicator electrical

### Filter Housing:

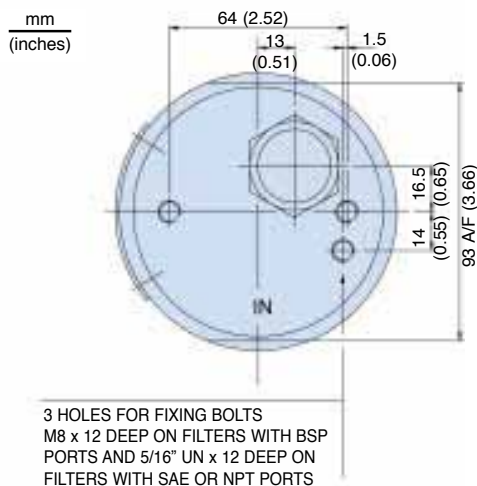
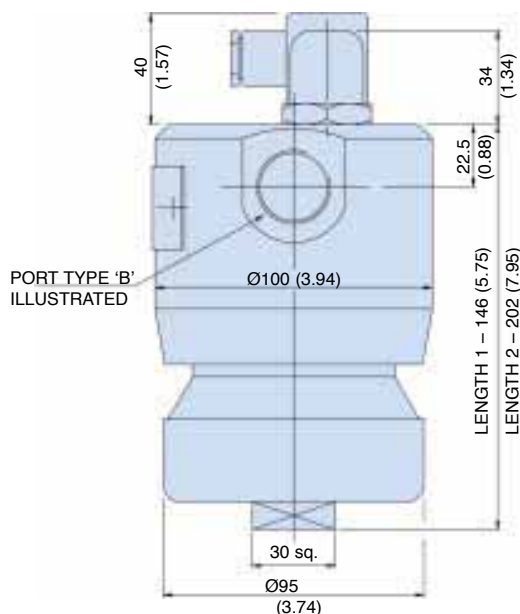
Stainless steel

### Filter Element:

Element with steel end caps

### Options:

High strength elements



## SH100 Series

### PREFERRED PRODUCTS TABLE

Ordering Code	Flow (l/min)	Media Rating	Ports	Indicator	Replacement Elements
175A2L35-NZ121S	50	GDH 06	1/2" NPT	Visual	170Z121A
175A2L35-NZ122S	50	GDH 10	1/2" NPT	Visual	170Z122A
175A2L35-NZ123S	50	GDH 20	1/2" NPT	Visual	170Z123A
175A2L35-DZ221S	100	GDH 06	3/4" NPT	Visual	170Z221A
175A2L35-DZ222S	100	GDH 10	3/4" NPT	Visual	170Z222A
175A2L35-DZ223S	100	GDH 20	3/4" NPT	Visual	170Z223A

**Note:** Filter assemblies ordered from the Part Number Matrix below are on extended lead times.  
Where possible, please make your selection from the table above.

### ORDERING EXAMPLE

#### Element

Std	2	Std	8	9	10	4
1	7	0	Z	1	22	A

#### Assembly

1	2	3	4	5	5A	6	Std	7	8	9	10	Std
1	7	5	A	3	C	35	-	B	Z	1	22	S

Table 1

Filter Type	
Housing	CODE
Model SH100	1

Table 2

Element Type	
Element Type	CODE
High strength cleanable Stainless steel*	4
High strength inorganic fibre disposable	5
Inorganic fibre disposable	7
Corrosion resistant mesh (cleanable)*	9

\* Only valid with special cleaning routine.

Table 3

Filter Material	
Variety	CODE
Stainless steel	5

Table 4

Seal Type	
Seal Material	CODE
Nitrile (NBR)	A
Ethylene Propylene (EP)	B
Fluoroelastomer (FPM)	H

Table 5

Bypass	
No bypass port machined	0
Spool type bypass valve	1
Spool type bypass valve	2
No bypass valve	4

Table 5A

Indicators	
No indicator / No bypass valve	
No indicator	
Standard visual indicator	
Visual indicator with memory (Latch out)	
Electrical IDN 43650 28V=/ 250 V ~ No lamps	
Electrical visual indicator 250 V ~ Green lamps N.C.	
Electrical visual indicator 250 V ~ Red lamps N.O.	
Electrical visual indicator 110 V ~ Green lamps N.C.	
Electrical visual indicator 110 V ~ Red lamps N.O.	
Electrical visual indicator 28 V = Green lamps N.C.	
Electrical visual indicator 28 V = Red lamps N.O.	

Table 6

Bypass Valve	
Bypass differential pressure setting	CODE
No bypass / No indicator	00
Bypass setting 3.5 bar	35

Table 7

Filter Connection	
Ports	CODE
ISO 228- G1/2 (1/2" BSP)	B
ISO 228- G3/4 (3/4" BSP)	E
1/2" NPT	N
3/4" NPT	D
1 1/8" SAE (1 1/8"-12 UN-2B)	J

Table 8

Element Information		
Element types		CODE
Mineral oil only (Only available on filter type '7')	10 & 20µ only	L
All fluids exc. phos. esters, water glycols and ammonia containing fluids	All ratings	Z
HFC-Fluids Please contact Parker Arlon before utilisation	All ratings	*T
Ammonia containing fluids Please contact Parker Arlon before utilisation	All ratings	*F
Phosphate esters Please contact Parker Arlon before utilisation	All ratings	*S

\* Specials on request. Please consult Parker Filtration.

Table 9

Element Length	
Element length	CODE
Length 1	1
Length 2	2

Table 10

Filter Media		
Element type	Filtration Fineness (βx75)	CODE
5	3µ	FF
4	6µ	01
4 or 5	15µ	10
9	40µ	40
7	GDH1	19
7	GDH3	20
7	GDH6	21
7	GDH10	22
7	GDH20	23

Table A

Degree of Filtration						
Average filtration Beta Ratio (ISO 16889) / particle size µm(c)						CODE
2	10	75	100	200	1000	
N/A	3.0	4.1	4.4	4.9	6.7	GDL3/GDH3
N/A	4.0	6.7	7.0	7.9	10.0	GDL6/GDH6
3.1	6.2	9.9	10.4	11.6	14.6	GDL10/GDH10
6.7	12.6	17.8	18.5	20.0	22.6	GDL20/GDH20



## **HYDAC**

### **Stainless Steel Pressure Filters**

**Working pressure up to 1000 bar**



**Hydac International Stainless Steel Pressure Filters in AISI 316 material. Types MPSSF 450, HPSSF 700 and ACSSF 1000 are designed for filtering contaminants from offshore hydraulics, chemical and industrial process engineering systems.**

**Port connections are available in BSP, NPT, UNF and Autoclave thread forms. Also available are flange and subplate mounted versions.**

**Filters are available with and without bypass, plus reverse and triple bypass options.**

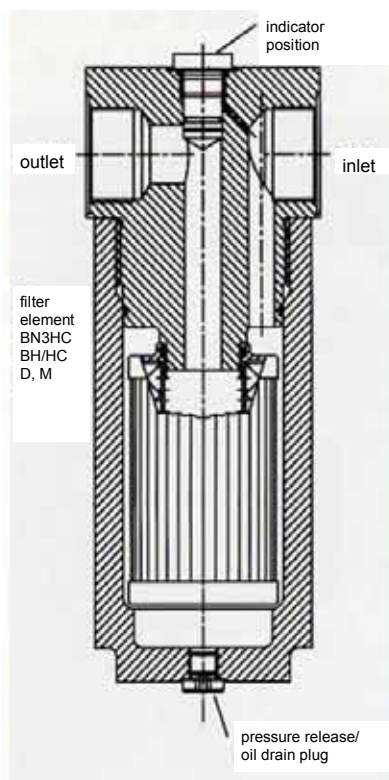


## 1. DESCRIPTION

### 1.1. FILTER HOUSING

#### 1.1.1. Basic design

The pressure filters consist of two main sections: the filter head and the screw-in filter bowl. The standard model is available with and without a bypass and a pressure release plug. The connection for a clogging indicator is available on the MPSSF 450 and HPSSF 700 range.



#### 1.1.2. Materials

Filter head: S/S AISI 316  
Filter bowl: S/S AISI 316

#### 1.1.3. Seals

NBR (Perbunan) or  
FKM (Viton)

#### 1.1.4. Special models

- For other seals, please contact our technical sales department.
- For flange connections and other thread forms, please contact our technical sales department.

#### 1.1.5. Accessories

- Visual clogging indicator
- The clogging indicators must be tightened to the recommended torque of 50 Nm.

### 1.2. FILTER ELEMENTS

See Filter Element brochure no. E 7.200../.. for BN3HC elements and BH3HC elements and see point 2.3. of this brochure for D and M elements.

#### 1.2.1. Cleaning of elements

##### Please note:

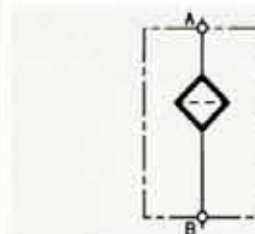
Only wire mesh (D) and metal fibre (M) elements can be cleaned. Filter elements type Betamicon® (BN3HC, BH3HC) **cannot** be cleaned.

## 2. TECHNICAL SPECIFICATIONS

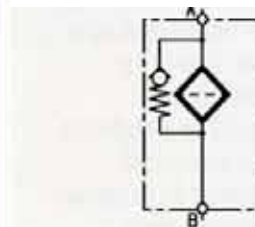
### 2.1. GENERAL

#### 2.1.1 Designation and hydraulic symbol

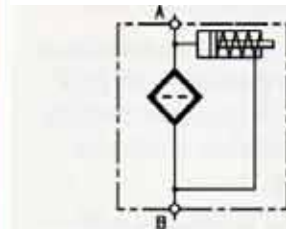
Filter without clogging indicator, without bypass valve (A)



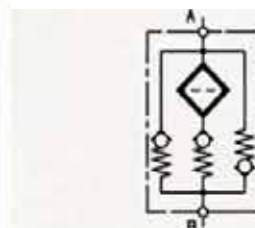
Filter without clogging indicator, with bypass valve (A../-B6)<sup>1)</sup>



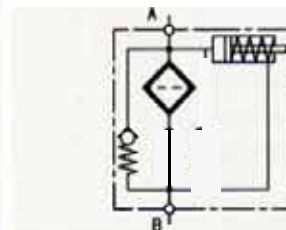
Filter with visual clogging indicator (B)



Filter without clogging indicator, with bypass valve (-TB6)<sup>1)</sup>



Filter with visual clogging indicator and bypass valve (B../-B6)<sup>1)</sup>



<sup>1)</sup> cannot be used on ACSSF



2.1.2 **Model code** (also order example)

		MPSSF450	BH/HC	60	N0	005	B	X	-V
<b>Filter type</b>									
MPSSF	450								
HPSSF	700								
ACSSF	1000								
<b>Filter element material</b>									
BH/HC	Betamicon®-H3HC element	]	absolute	see Filter Element brochure					
BN/HC	Betamicon®-N3HC element	]	filtration	no. 7.200../..					
M	metal fibre Chemicon® S/S element	]							
D	wire mesh S/S element		nominal filtration						
<b>Size</b>									
30, 60, 110, 160, 240, 330, 660		for filter sizing please contact our technical sales department							
<b>Type of connection</b>									
B	threaded connection	BSP (G)							
N	threaded connection	NPT							
S	threaded connection	SAE							
A	autoclave (20,000 psi)	form AE medium pressure (20,000 psi)							
P	manifold mounting (see <sup>1)</sup> below)	top interface							
		<b>BSP/NPT/SAE</b>		<b>Autoclave</b>					
SIZE 30		0							
SIZES: 60 - 110		0 - 3		0 & 1					
SIZES: 160 - 280		2 - 5		0 & 1		available permutations			
SIZES: 330 - 660		4 - 6		1, 2 & 3					
<b>Thread forms:</b>									
	<b>BSP/NPT</b>	<b>SAE</b>	<b>Autoclave</b>						
0	1/4"	SAE-4	9/16" -18						
1	3/8"	SAE-6	13/16" -16						
2	1/2"	SAE-8	3/4" -14						
3	3/4"	SAE-12	1 3/8" -12						
4	1"	SAE-16	-						
5	1 1/4"	SAE-20	-						
6	1 1/2"	SAE-24	-						
<b>Filtration rating in µm</b>									
3, 5, 10, 20		Betamicon®-H (BH3HC)		]					
		Betamicon®-N (BN3HC)		]					
		Metal fibre Chemicon® S/S (M)		]					
1, 3, 5, 10, 20		Wire mesh S/S (D)		nominal filtration					
25, 40, 60, 100, 150, 200, 250									
<b>Type of clogging indicator</b>									
A = without clogging indicator		]							
B = with visual clogging indicator		]		see separate brochure on					
C = with electrical clogging indicator		]		clogging indicators no. E 7.050../..					
D = with visual/electrical clogging indicator		]							
<b>Modification number</b>									
X = the latest version is always supplied									
<b>Supplementary details</b>									
-V = FPM (Viton) seals									
-W = stainless steel -HC elements									
-B6 = with bypass valve									
-TB6 = with triple bypass valve									
-/RC = with reverse flow check									
-EX = Eexd indicator									

<sup>1)</sup> only available in certain models

**Note:** not all sizes are available with all port / circuit arrangements!

- 2.1.3 **Type of construction**  
Inline filter
- 2.1.4 **Mounting method**  
4 mounting holes in filter head
- 2.1.5 **Mounting position**  
Vertical
- 2.1.6 **Flow direction (inline)**  
Inlet: side connection  
Outlet: side connection  
At the same level, on opposite sides
- 2.1.7 **Flow direction (manifold mounting)**  
Inlet and outlet connections in top face.

## 2.2. HYDRAULIC DATA

### 2.2.1 Operating pressure

MPSSF: 450 bar max.  
HPSSF: 700 bar max.  
ACSSF: 1000 bar max.

### 2.2.2 Permissible $\Delta p$ across element

Betamicon®-H (BH3HC) 210 bar  
Betamicon®-N (BN3HC) 25 bar  
Metal fibre (M) 210 bar  
Wire mesh (D) 210 bar

### 2.2.3 Temperature range

min...max... = -10°C... +100°C

- 2.2.4 **Compatibility with hydraulic media**  
Mineral oils:  
test criteria to ISO 2943  
Lubricating oils:  
test criteria to ISO 2943  
For use with water, non-flam fluids, synthetic oils and rapidly biodegradable oils etc., please contact our Technical Sales department.

### 2.2.5 Flow fatigue limit to ISO 3724

High fatigue limit resistance due to solid filter material supports and high inherent stability of filter materials.

### 2.2.6 Pressure setting of clogging indicator

$p_a = 5 \text{ bar} - 10\%$

### 2.2.7 Cracking pressure of bypass valve

$p_o = 6 \text{ bar} + 10\%$

## 2.3. MODEL CODE FOR STAINLESS STEEL SPARE ELEMENT (also order example)

**Size** 060 - DR - 100 - D - V

015 / 030  
060 / 110  
160 / 240 / 280  
330 / 660  
other sizes on request

**Type of element** DR (up to max. 200°C)

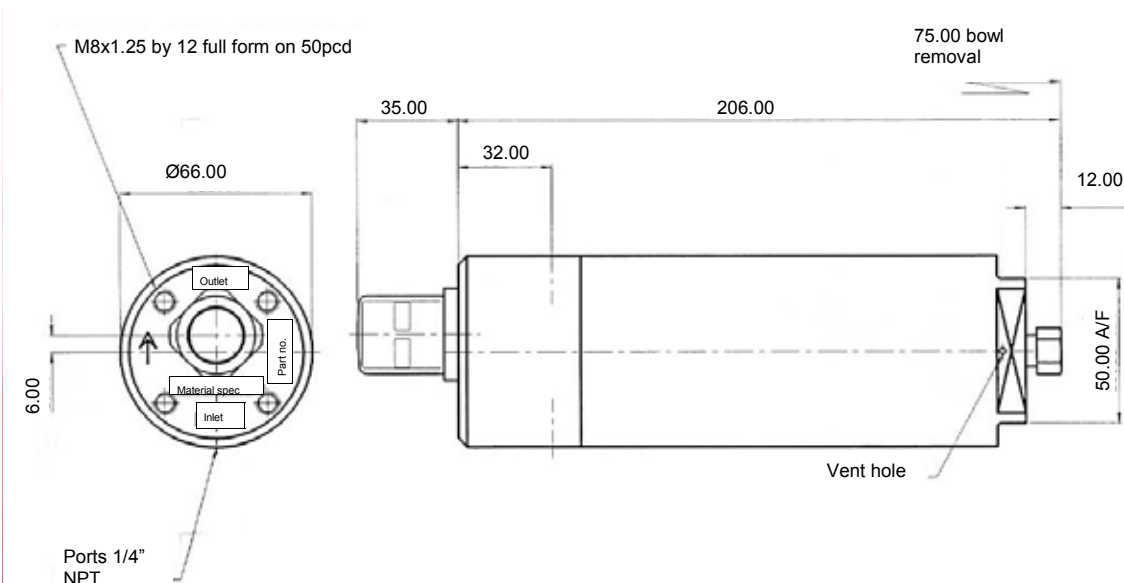
**Filtration rating in  $\mu\text{m}$**  1, 3, 5, 10, 20 (Chemicron®)  
25, 40, 60, 100, 150, 200, 250 (wire mesh)

**Filter material of element** M = Chemicron® (1 - 20 m absolute)  
D = Wire mesh (25 - 250 m nominal)

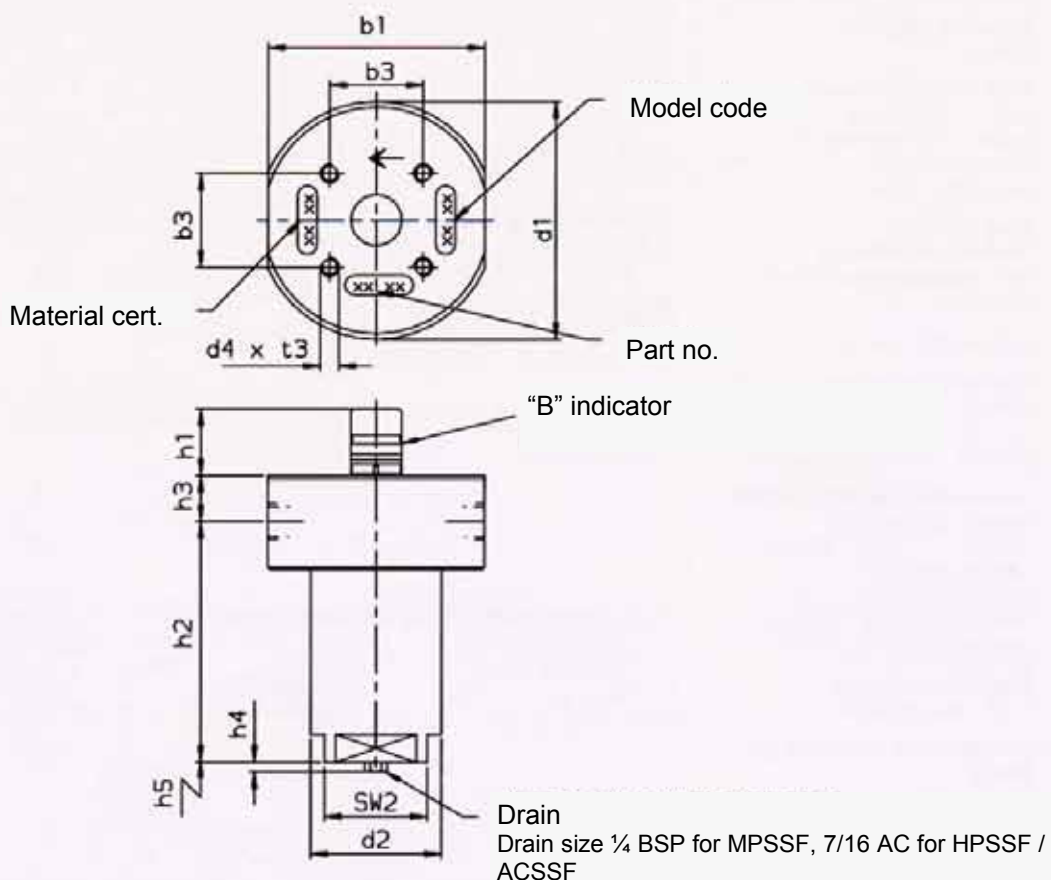
**Seals** V = FPM (Viton) (Standard)  
N = NBR (Perbunan)

## 3. DIMENSIONS

### 3.1 MPSSF / HPSSF INLINE FILTER SIZE 30



3.2 MPSSF / HPSSF INLINE FILTER SIZES 60 – 660



Dimensions of MPSSF in mm

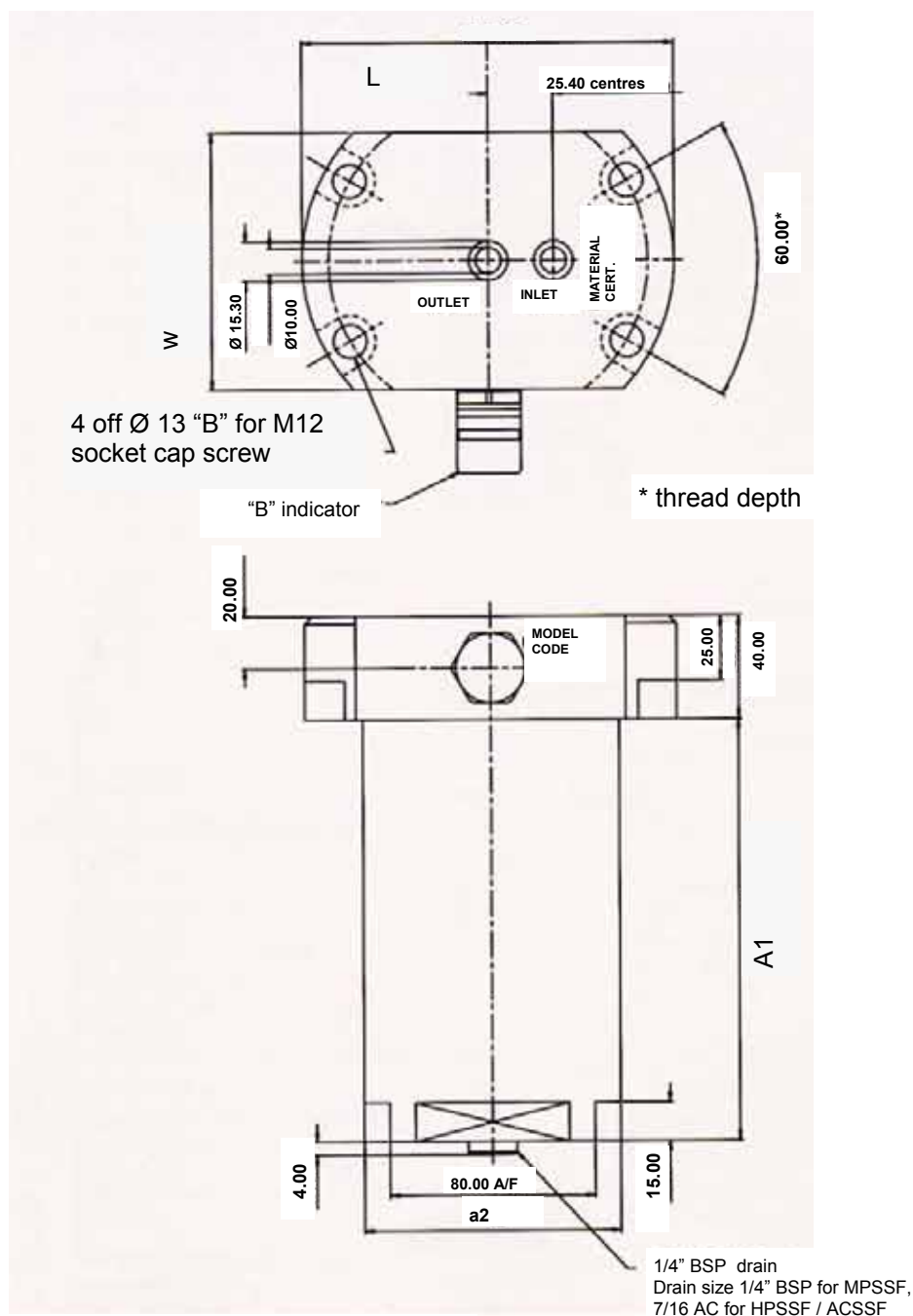
MPSSF size	b1	b3	d1	d2	d4	h1	h2	h3	h5	SW2	t3*	h4	Approx. weight in kg
60	116	50	100	70	M 10	36.5	184	33	80	55	16	5	6.0
110			127				251.5						8.5
160	116	60	127	100	M 10		232	38	90	80	16	5	14.0
240							289						19.0
280							499						26.0
330	146	60	160	130	M 12		309	45	110	110	16	5	26.5
660							479.5						55.0

\* thread depth

Dimensions of HPSSF in mm

HPSSF size	b1	b3	d1	d2	d4	h1	h2	h3	h5	SW2	t3*	h4	Approx. weight in kg
60	116	50	127	100	M 10	36.5	188	33	80	80	16	N/A	8.0
110							255.5						10.0
160	116	60	127	110	M 10		232	38	90	80	16	N/A	22.0
240							289						27.0
330							311						31.0
660	146	60	160	150	M 12		481.5	45	110	110	16	N/A	63.0

4. DIMENSIONS OF MANIFOLD MOUNTED FILTER  
MPSSF / HPSSF 60 P / 160 P / 240 P



Dimensions for MPSSF in mm

Type		a1	a2	w	L	pcd	Approx. weight in kg
MPSSF	60P	201	70	88	100	76.2	7.50
	160P	204	100	100	145	124.5	13.35
	240P	261	100	100	145	124.5	18.93

Dimensions for HPSSF in mm

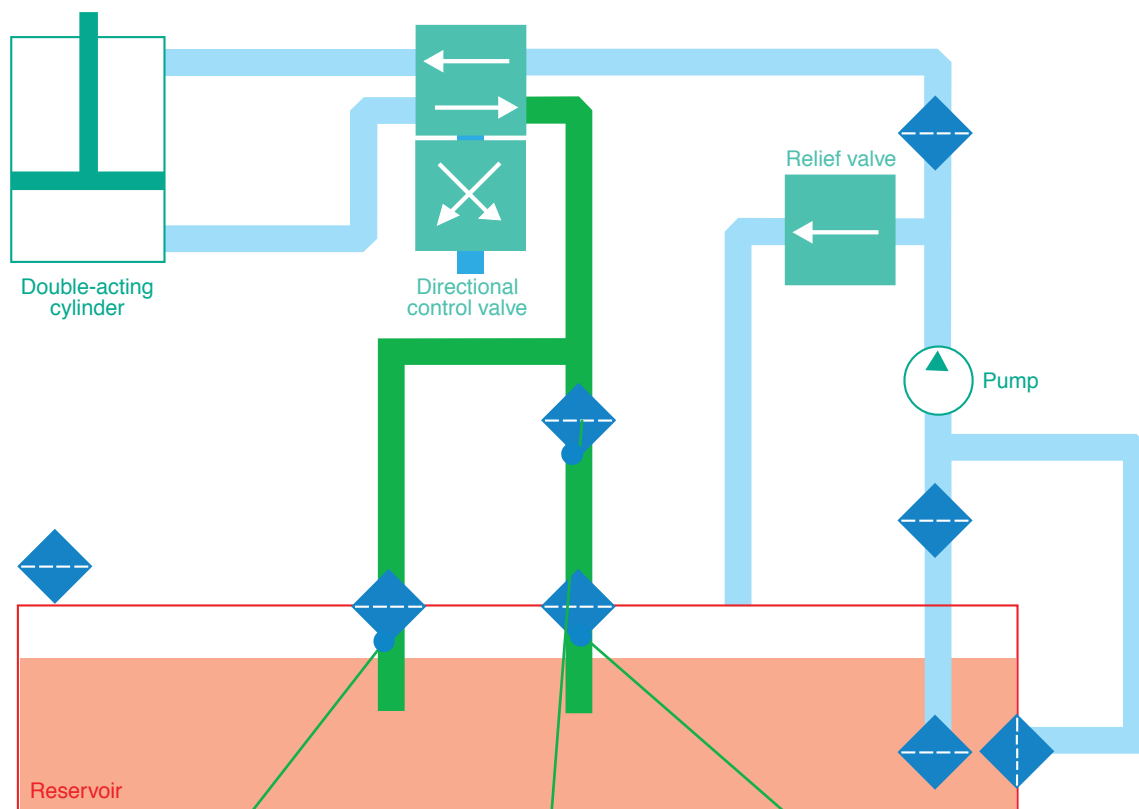
Type		a1	a2	w	L	pcd	Approx. weight in kg
HPSSF	60P	201	76.2	88	100	76.2	8.0
	160P	204	114	100	145	124.5	21.0
	240P	261	114	100	145	124.5	26.0

# 1.1.5

# Returfilter

## Produktoversikt

### Returfilter



**Retur- og sugefilter  
tankfilter**



**Linje returfiltere**



**Tank returfiltere**

## FIK-FIO Return Line Filters Up to 10 bar

## FIK-FIOT Return Line Filters with filler cap Up to 10 bar

### Technical Data

- Operating pressure at 1000 kPa (10 bar).
- Static pressure testing at 1500 kPa (15 bar).
- Operating temperature -20 +100°C.
- Compatibility with hydraulic fluids per ISO 2943.
- Flow rate and pressure drop per ISO 3968 with oil kinematic viscosity 30 cSt at 40°C and density 0,875 kg/dm<sup>3</sup>
- Ports threaded per ISO 228/1 or flanged per SAE J 518 - 3000 PSI.



### Filter Elements

- Wire mesh with 60-90 micron.
- Synteq® synthetic media with 10-25 micron.
- Cellulose media with 10-30 micron, reinforced with wire mesh.
- By-pass valve setting 150 kPa (1,5 bar) per ISO 3968.
- Collapse resistance 1000 kPa (10 bar) per ISO 2941.
- Replacement element includes spring and O-ring seal.



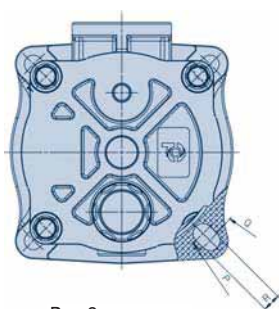
# FIK-FIOT, 4 Holes Flange Return Line Filters with filler cap

## Specifications

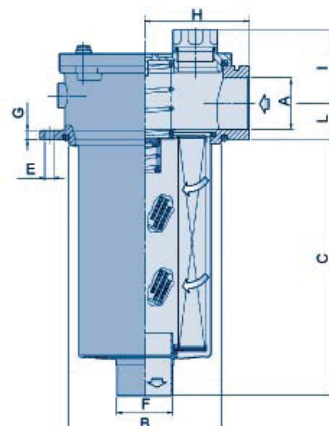


/9					/6				
WIRE MESH MEDIA									
FLOW l/min	TYPE	ELEMENT	TYPE	ELEMENT	FLOW l/min	TYPE	ELEMENT	TYPE	ELEMENT
110	K041572	P171530 CR 100	K041573	P171535 CR 100/6	65	K041522	P171534 CR 100/3	K041575	P171533 CR 100/1
	FIOT 110/9		FIOT 110/6			FIOT 110/3		FIOT 110/1	
	K041548		K041549			K041550		K041551	
	FIOT 110/9 P		FIOT 110/6 P			FIOT 110/3 P		FIOT 110/1 P	
140	K041578	P171831 CR 150	K041579	P171834 CR 150/6	100	K041580	P171837 CR 150/3	K041581	P171840 CR 150/1
	FIOT 140/9		FIOT 140/6			K041556		FIOT 140/1	
	K041554		K041555			FIOT 140/3 P		K041557	
	FIOT 140/9 P		FIOT 140/6 P			FIOT 140/3 P		FIOT 140/1 P	
					CELLULOSE MEDIA				
					$\beta_{40(c)}=1000$				
					$\beta_{36(c)}=1000$				
					SYNTHETIC MEDIA				
					$\beta_{23(c)}=1000$				
					$\beta_{11(c)}=1000$				
FLOW l/min	TYPE	ELEMENT	TYPE	ELEMENT	FLOW l/min	TYPE	ELEMENT	TYPE	ELEMENT
60	K041567	P171532 CR 100/03	K041577	P171531 CR 100/02	60	K041567	P171532 CR 100/03	K041577	P171531 CR 100/02
	FIOT 110/03		FIOT 110/02			K041552		K041553	
	K041552		FIOT 110/03 P			FIOT 110/03 P		FIOT 110/02 P	
90	K041582	P171843 CR 150/03	K041583	P171846 CR 150/02	90	K041582	P171843 CR 150/03	K041583	P171846 CR 150/02
	FIOT 140/03		FIOT 140/02			K041558		K041559	
	K041558		FIOT 140/03 P			FIOT 140/03 P		FIOT 140/02 P	

IN BLUE FILTERS ASSY WITH PREDISPOSITION SERIE FIK-FIOT, 4 HOLES FLANGE



R = 9 mm  
Q = Ø 126 mm  
P = Ø 115 mm



DIMENSIONS ASSY (mm)											DIMENSIONS ELEMENT (mm)		
A	B	C	D	E	F	G	H	I	L	Kg.	M	N	O
G 1	90	145	115	8,4	28	10	66	60	28	0,9	29	70	128
G 1	90	235	115	8,4	28	10	66	60	28	0,9	42	70	210



# FLK-FLS

## In-Line Return Line Filters with take apart element Up to 30 bar

### Technical Data

- Operating pressure at 3000 kPa (30 bar).
- Static pressure testing at 4500 kPa (45 bar).
- By-pass valve setting 150 kPa (1,5 bar) per ISO 3968.
- Operating temperature -20 +100°C.
- Compatibility with hydraulic fluids per ISO 2943.
- Flow rate and pressure drop per ISO 3968 with oil kinematic viscosity 30 cSt at 40°C and density 0,875 kg/dm<sup>3</sup>.
- Ports threaded per ISO 228/1 or flanged per SAE J 518 - 3000PSI.

### Filter Elements

- Wire mesh 60-90 micron.
- Synteq® synthetic media with 10-25 micron.
- Cellulose media with 10-30 micron, reinforced with wire mesh.
- Collapse resistance 1000 kPa (10 bar) per ISO 2941.



# FLK-FLS

## In-Line Return Filters

### with take apart element

## Specifications

		/9		/6			/3		/1			/03		/02		
		WIRE MESH MEDIA					CELLULOSE MEDIA					SYNTHETIC MEDIA				
							$\beta_{50(c)}=1000$		$\beta_{96(c)}=1000$			$\beta_{23(c)}=1000$		$\beta_{11(c)}=1000$		
	FLOW l/min	TYPE	ELEMENT	TYPE	ELEMENT	FLOW l/min	TYPE	ELEMENT	TYPE	ELEMENT	FLOW l/min	TYPE	ELEMENT	TYPE	ELEMENT	
WITHOUT FLANGE	40	K030259 FLS 50 K030372 FLS 50 P K030271 FLS 100 K030365 FLS 100 P	P171518 CR 50	K030264 FLS 50/6 K030325 FLS 50/6 P K030276 FLS 100/6 K030371 FLS 100/6 P	P171523 CR 50/6	35	K030263 FLS 50/3 K030376 FLS 50/3 P K030275 FLS 100/3 K030326 FLS 100/3 P	P171522 CR 50/3	K030262 FLS 50/1 K030375 FLS 50/1 P K030274 FLS 100/1 K030368 FLS 100/1 P	P171521 CR 50/1	30	K030261 FLS 50/03 K030374 FLS 50/03 P K030273 FLS 100/03 K030367 FLS 100/03 P	P171520 CR 50/03	K030260 FLS 50/02 K030373 FLS 50/02 P K030272 FLS 100/02 K030366 FLS 100/02 P	P171519 CR 50/02	
	80	K040596 FLS 150 K040948 FLS 150 P K040608 FLS 180 K040954 FLS 180 P	P171584 CR 125	K040601 FLS 150/6 K040953 FLS 150/6 P K040613 FLS 180/6 K040959 FLS 180/6 P	P171589 CR 125/6	65	K040599 FLS 150/3 K040952 FLS 150/3 P K040612 FLS 180/3 K040958 FLS 180/3 P	P171588 CR 125/3	K040598 FLS 150/1 K040951 FLS 150/1 P K040611 FLS 180/1 K040957 FLS 180/1 P	P171587 CR 125/1	60	K040597 FLS 150/03 K040950 FLS 150/03 P K040610 FLS 180/03 K040956 FLS 180/03 P	P171532 CR 100/03	K040596 FLS 100/02 K040949 FLS 150/02 P K040609 FLS 180/02 K040955 FLS 180/02 P	P171531 CR 100/02	
	130	K040620 FLS 200 K040960 FLS 200 P	P171596 CL 200	K040963 FLS 200/6 K040963 FLS 200/6 P	P171601 CL 200/6	110	K040624 FLS 200/3 K040962 FLS 200/3 P	P171588 CR 125/3	K040623 FLS 200/1 K040961 FLS 200/1 P	P171587 CR 125/1	90	K040622 FLS 200/03 K041125 FLS 200/03 P	P171586 CR 125/03	K040621 FLS 200/02 K041124 FLS 200/02 P	P171585 CR 125/02	
	180	K070159 FLS 250 K070560 FLS 250 P K070171 FLS 330 K070420 FLS 330 P K070183 FLS 500 K070426 FLS 500 P	P171590 CR 220	K070164 FLS 250/6 K070419 FLS 250/6 P K070176 FLS 330/6 K070425 FLS 330/6 P K070188 FLS 500/6 K070431 FLS 500/6 P	P171595 CR 220/6	130	K040624 FLS 200/3 K040962 FLS 200/3 P	P171540 CR 180/3	K040623 FLS 200/1 K040961 FLS 200/1 P	P171539 CR 180/1	110	K040622 FLS 200/03 K041125 FLS 200/03 P	P171538 CR 180/3	K040621 FLS 200/02 K041124 FLS 200/02 P	P171537 CR 180/02	
	200	K070159 FLS 250 K070560 FLS 250 P K070171 FLS 330 K070420 FLS 330 P K070183 FLS 500 K070426 FLS 500 P	P171590 CR 220	K070164 FLS 250/6 K070419 FLS 250/6 P K070176 FLS 330/6 K070425 FLS 330/6 P K070188 FLS 500/6 K070431 FLS 500/6 P	P171595 CR 220/6	200	K070163 FLS 250/3 K070418 FLS 250/3 P K070175 FLS 330/3 K070424 FLS 330/3 P K070187 FLS 500/3 K070430 FLS 500/3 P	P171594 CR 220/3	K070162 FLS 250/1 K070417 FLS 250/1 P K070174 FLS 330/1 K070423 FLS 330/1 P K070186 FLS 500/1 K070429 FLS 500/1 P	P171593 CR 220/1	140	K070161 FLS 250/03 K070559 FLS 250/03 P K070173 FLS 330/03 K070422 FLS 330/03 P K070185 FLS 500/03 K070428 FLS 500/03 P	P171592 CR 220/03	K070160 FLS 250/02 K070558 FLS 250/02 P K070172 FLS 330/02 K070421 FLS 330/02 P K070184 FLS 500/02 K070427 FLS 500/02 P	P171591 CR 220/02	
	330	K070159 FLS 250 K070560 FLS 250 P K070171 FLS 330 K070420 FLS 330 P K070183 FLS 500 K070426 FLS 500 P	P171590 CR 220	K070164 FLS 250/6 K070419 FLS 250/6 P K070176 FLS 330/6 K070425 FLS 330/6 P K070188 FLS 500/6 K070431 FLS 500/6 P	P171595 CR 220/6	220	K070163 FLS 250/3 K070418 FLS 250/3 P K070175 FLS 330/3 K070424 FLS 330/3 P K070187 FLS 500/3 K070430 FLS 500/3 P	P171564 CR 330/3	K070162 FLS 250/1 K070417 FLS 250/1 P K070174 FLS 330/1 K070423 FLS 330/1 P K070186 FLS 500/1 K070429 FLS 500/1 P	P171563 CR 330/1	180	K070161 FLS 250/03 K070559 FLS 250/03 P K070173 FLS 330/03 K070422 FLS 330/03 P K070185 FLS 500/03 K070428 FLS 500/03 P	P171562 CR 330/03	K070160 FLS 250/02 K070558 FLS 250/02 P K070172 FLS 330/02 K070421 FLS 330/02 P K070184 FLS 500/02 K070427 FLS 500/02 P	P171561 CR 330/02	
	500	K070159 FLS 250 K070560 FLS 250 P K070171 FLS 330 K070420 FLS 330 P K070183 FLS 500 K070426 FLS 500 P	P171590 CR 220	K070164 FLS 250/6 K070419 FLS 250/6 P K070176 FLS 330/6 K070425 FLS 330/6 P K070188 FLS 500/6 K070431 FLS 500/6 P	P171595 CR 220/6	400	K070163 FLS 250/3 K070418 FLS 250/3 P K070175 FLS 330/3 K070424 FLS 330/3 P K070187 FLS 500/3 K070430 FLS 500/3 P	P171570 CR 500/3	K070162 FLS 250/1 K070417 FLS 250/1 P K070174 FLS 330/1 K070423 FLS 330/1 P K070186 FLS 500/1 K070429 FLS 500/1 P	P171569 CR 500/1	350	K070161 FLS 250/03 K070559 FLS 250/03 P K070173 FLS 330/03 K070422 FLS 330/03 P K070185 FLS 500/03 K070428 FLS 500/03 P	P171568 CR 500/03	K070160 FLS 250/02 K070558 FLS 250/02 P K070172 FLS 330/02 K070421 FLS 330/02 P K070184 FLS 500/02 K070427 FLS 500/02 P	P171567 CR 500/02	
	WITH FLANGE	250	K070195 FLSF 250 K070432 FLSF 250 P K070207 FLSF 330 K070569 FLSF 330 P K070219 FLSF 500 K070571 FLSF 500 P K070231 FLSF 800 K070440 FLSF 800 P	P171590 CR 220	K070200 FLSF 250/6 K070433 FLSF 250/6 P K070212 FLSF 330/6 K070568 FLSF 330/6 P K070224 FLSF 500/6 K070439 FLSF 500/6 P K070236 FLSF 800/6 K070445 FLSF 800/6 P	P171595 CR 220/6	160	K070199 FLSF 250/3 K070564 FLSF 250/3 P K070211 FLSF 330/3 K070434 FLSF 330/3 P K070223 FLSF 500/3 K070438 FLSF 500/3 P K070235 FLSF 800/3 K070444 FLSF 800/3 P	P171594 CR 220/3	K070198 FLSF 250/1 K070563 FLSF 250/1 P K070210 FLSF 330/1 K070567 FLSF 330/1 P K070222 FLSF 500/1 K070437 FLSF 500/1 P K070234 FLSF 800/1 K070443 FLSF 800/1 P	P171593 CR 220/1	140	K070197 FLSF 250/03 K070562 FLSF 250/03 P K070209 FLSF 330/03 K070566 FLSF 330/03 P K070221 FLSF 500/03 K070436 FLSF 500/03 P K070233 FLSF 800/03 K070442 FLSF 800/03 P	P171592 CR 220/03	K070196 FLSF 250/02 K070561 FLSF 250/02 P K070208 FLSF 330/02 K070565 FLSF 330/02 P K070220 FLSF 500/02 K070435 FLSF 500/02 P K070232 FLSF 800/02 K070441 FLSF 800/02 P	P171591 CR 220/02
		330	K070195 FLSF 250 K070432 FLSF 250 P K070207 FLSF 330 K070569 FLSF 330 P K070219 FLSF 500 K070571 FLSF 500 P K070231 FLSF 800 K070440 FLSF 800 P	P171590 CR 220	K070200 FLSF 250/6 K070433 FLSF 250/6 P K070212 FLSF 330/6 K070568 FLSF 330/6 P K070224 FLSF 500/6 K070439 FLSF 500/6 P K070236 FLSF 800/6 K070445 FLSF 800/6 P	P171595 CR 220/6	220	K070199 FLSF 250/3 K070564 FLSF 250/3 P K070211 FLSF 330/3 K070434 FLSF 330/3 P K070223 FLSF 500/3 K070438 FLSF 500/3 P K070235 FLSF 800/3 K070444 FLSF 800/3 P	P171564 CR 330/3	K070198 FLSF 250/1 K070567 FLSF 330/1 P K070222 FLSF 500/1 K070437 FLSF 500/1 P K070234 FLSF 800/1 K070443 FLSF 800/1 P	P171563 CR 330/1	180	K070197 FLSF 250/03 K070562 FLSF 250/03 P K070209 FLSF 330/03 K070566 FLSF 330/03 P K070221 FLSF 500/03 K070436 FLSF 500/03 P K070233 FLSF 800/03 K070442 FLSF 800/03 P	P171562 CR 330/03	K070196 FLSF 250/02 K070561 FLSF 250/02 P K070208 FLSF 330/02 K070565 FLSF 330/02 P K070220 FLSF 500/02 K070435 FLSF 500/02 P K070232 FLSF 800/02 K070441 FLSF 800/02 P	P171561 CR 330/02
		500	K070195 FLSF 250 K070432 FLSF 250 P K070207 FLSF 330 K070569 FLSF 330 P K070219 FLSF 500 K070571 FLSF 500 P K070231 FLSF 800 K070440 FLSF 800 P	P171590 CR 220	K070200 FLSF 250/6 K070433 FLSF 250/6 P K070212 FLSF 330/6 K070568 FLSF 330/6 P K070224 FLSF 500/6 K070439 FLSF 500/6 P K070236 FLSF 800/6 K070445 FLSF 800/6 P	P171595 CR 220/6	400	K070199 FLSF 250/3 K070564 FLSF 250/3 P K070211 FLSF 330/3 K070434 FLSF 330/3 P K070223 FLSF 500/3 K070438 FLSF 500/3 P K070235 FLSF 800/3 K070444 FLSF 800/3 P	P171570 CR 500/3	K070198 FLSF 250/1 K070567 FLSF 330/1 P K070222 FLSF 500/1 K070437 FLSF 500/1 P K070234 FLSF 800/1 K070443 FLSF 800/1 P	P171569 CR 500/1	350	K070197 FLSF 250/03 K070562 FLSF 250/03 P K070209 FLSF 330/03 K070566 FLSF 330/03 P K070221 FLSF 500/03 K070436 FLSF 500/03 P K070233 FLSF 800/03 K070442 FLSF 800/03 P	P171568 CR 500/03	K070196 FLSF 250/02 K070561 FLSF 250/02 P K070208 FLSF 330/02 K070565 FLSF 330/02 P K070220 FLSF 500/02 K070435 FLSF 500/02 P K070232 FLSF 800/02 K070441 FLSF 800/02 P	P171567 CR 500/02
600		K070195 FLSF 250 K070432 FLSF 250 P K070207 FLSF 330 K070569 FLSF 330 P K070219 FLSF 500 K070571 FLSF 500 P K070231 FLSF 800 K070440 FLSF 800 P	P171590 CR 220	K070200 FLSF 250/6 K070433 FLSF 250/6 P K070212 FLSF 330/6 K070568 FLSF 330/6 P K070224 FLSF 500/6 K070439 FLSF 500/6 P K070236 FLSF 800/6 K070445 FLSF 800/6 P	P171595 CR 220/6	500	K070199 FLSF 250/3 K070564 FLSF 250/3 P K070211 FLSF 330/3 K070434 FLSF 330/3 P K070223 FLSF 500/3 K070438 FLSF 500/3 P K070235 FLSF 800/3 K070444 FLSF 800/3 P	P171582 CR 800/3	K070198 FLSF 250/1 K070567 FLSF 330/1 P K070222 FLSF 500/1 K070437 FLSF 500/1 P K070234 FLSF 800/1 K070443 FLSF 800/1 P	P171581 CR 800/1	400	K070197 FLSF 250/03 K070562 FLSF 250/03 P K070209 FLSF 330/03 K070566 FLSF 330/03 P K070221 FLSF 500/03 K070436 FLSF 500/03 P K070233 FLSF 800/03 K070442 FLSF 800/03 P	P171580 CR 800/03	K070196 FLSF 250/02 K070561 FLSF 250/02 P K070208 FLSF 330/02 K070565 FLSF 330/02 P K070220 FLSF 500/02 K070435 FLSF 500/02 P K070232 FLSF 800/02 K070441 FLSF 800/02 P	P171579 CR 800/02	

# FBK-FRCA

## In-Line Return Spin-On Filters

### Up to 10 bar

#### Technical Data

- Operating pressure at 1000 kPa (10 bar).
- Static pressure testing at 1500 kPa (15 bar).
- By-pass valve setting 150 kPa (1,5 bar) or 170 kPa (1,7 bar) per ISO 3968.
- Operating temperature -20 +100°C.
- Compatibility with hydraulic fluids per ISO 2943.
- Flow rate and pressure drop per ISO 3968 with oil kinematic viscosity 30 cSt at 40°C and density 0,875 kg/dm<sup>3</sup>.
- Ports threaded per ISO 228/1.

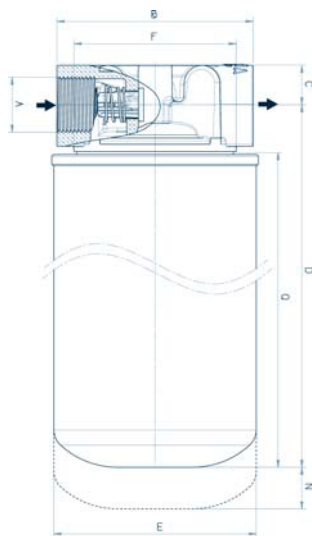
#### Filter Elements

- Wire mesh 60-90 micron.
- Synteq® synthetic media with 10-25 micron.
- Cellulose media with 10-30 micron, reinforced with wire mesh.
- Collapse resistance 1000 kPa (10 bar) per ISO 2941.

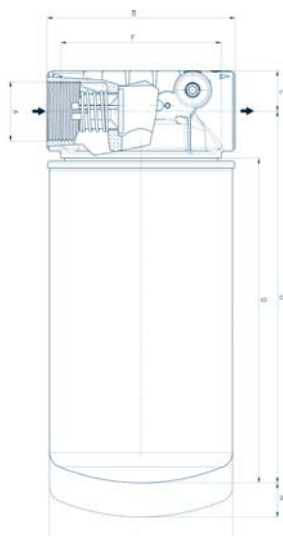


# FBK-FRCA In-Line Return Spin-On Filters

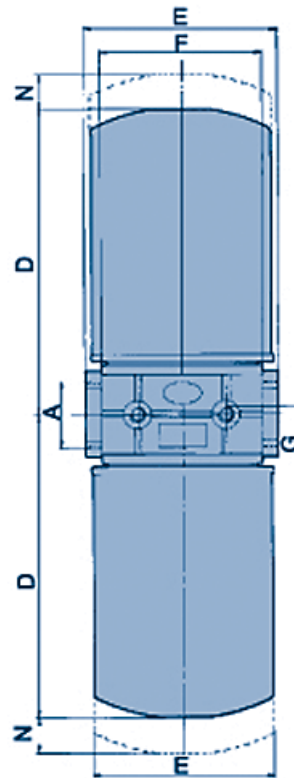
## Specifications



SIZE 60-80 <sup>2</sup>



SIZE 160-200 <sup>1</sup>



SIZE 380-400 <sup>2</sup>

<sup>1</sup> By-pass valve setting 150 kPa (1,5 bar)

<sup>2</sup> By-pass valve setting 170 kPa (1,7 bar)

	/6			/3			/1			/03		/02	
	WIRE MESH MEDIA			CELLULOSE MEDIA			SYNTHETIC MEDIA						
FLOW l/min	TYPE	ELEMENT	FLOW l/min	TYPE	ELEMENT	FLOW l/min	TYPE	ELEMENT	FLOW l/min	TYPE	ELEMENT	TYPE	ELEMENT
60	K040635 FRCA 60/6	P171607 CA 60/6	60	K040634 FRCA 60/3	P171606 CA 60/3	50	K040633 FRCA 60/1	P550268 CA 60/1	40	K040632 FRCA 60/03	P171604 CA 60/03	K040631 FRCA 60/02	P171602 CA 60/02
80	K040645 FRCA 80/6	P171612 CA 80/6	70	K040644 FRCA 80/3	P171611 CA 80/3	60	K040643 FRCA 80/1	P171610 CA 80/1	50	K040642 FRCA 80/03	P171609 CA 80/03	K040641 FRCA 80/02	P171608 CA 80/02
160	K051155 FRCA 160/6	P171617 CA 160/6	150	K051154 FRCA 160/3	P171616 CA 160/3	140	K051153 FRCA 160/1	P550148 CA 160/1	120	K051152 FRCA 160/03	P171614 CA 160/03	K051151 FRCA 160/02	P171613 CA 160/02
200	K051165 FRCA 200/6	P171622 CA 200/6	190	K051164 FRCA 200/3	P171621 CA 200/3	160	K051163 FRCA 200/1	P171620 CA 200/1	140	K051162 FRCA 200/03	P171619 CA 200/03	K051161 FRCA 200/02	P171618 CA 200/02
380	K250035 FRCA 380/6	P171617 CA 160/6	340	K250034 FRCA 380/3	P171616 CA 160/3	300	K250033 FRCA 380/1	P550148 CA 160/1	280	K250032 FRCA 380/03	P171614 CA 160/03	K250031 FRCA 380/02	P171613 CA 160/02
400	K250040 FRCA 400/6	P171622 CA 200/6	360	K250039 FRCA 400/3	P171621 CA 200/3	320	K250038 FRCA 400/1	P171620 CA 200/1	300	K250037 FRCA 400/03	P171619 CA 200/03	K250036 FRCA 400/02	P171618 CA 200/02

# Tanktop Mounted Return Line Filters

## TTF Series

### MAX 500 l/min - 10 bar

#### Features & Benefits

Features	Advantages	Benefits
10 bar rated filter	Can be utilised for severe return line applications	Reduced downtime due to premature filter failures
Cast aluminium head	Compact profile, lightweight and durable	Less weight, smaller envelop and cleaner appearance
LEIF® elements	Patented element safeguards the use of genuine parts	Guaranteed quality of filtration Contributes to ISO 14001 certification
Magnetic pre-filtration	Removes ferro particles, even during bypass conditions	Improved fluid cleanliness levels Extended element life time
In-to-Out filtration	All captured contamination retains inside the element	No recontamination of system during change of elements
High level of customisation	Dedicated system-matched solutions can be easily made available	Improved integration of filter in system combined with lower initial system costs
Full flow bypass with low hysteresis	Reduction of bypass period due to low hysteresis	Improved protection of system
	Only a small part of the total flow is bypassing the element	
Standard or customised funnel	Ensures that oil enters the tank under the oil level	Significant reduction of oil foaming

#### Typical Applications

- Waste management trucks
- Mobile cranes
- Power packs
- Wheeled loaders
- Drilling equipment

#### The Parker Filtration TTF Series Return Line Filters

TTF tank top mounted return line filters feature pre-filtration by means of a magnet column and a full flow bypass with low hysteresis. Thanks to the “In-to-Out” filter principle, contaminated oil cannot leak back into the system. TTF filters are available in versions capable of handling flow rates up to 500 l/min. They can operate up to a maximum working pressure of 10 bar. Optional filling port in filter cover, second return port and customised diffusers can be specified. Manifold type filter head (TSR Series) with four return ports is also available.





## Specification

### Operation pressure:

Max. 10 bar.

### Assembly:

Tank top mounted.

### Connections:

Threaded BSP ports.

Flanged ports on request.

Manifold filter head type TSR on request available for flows up to 250 l/min.

### Filter housing:

Aluminium head and cover.

### Seal material:

Nitrile, fluoroelastomer, neoprene.

### Operation temperature range:

-40 to +120°C.

### Bypass setting

Opening pressure 0.8 / 1.5 or 2 bar.

Other settings on request.

### Degree of filtration:

Determined by multipass test according to ISO 16889.

### Flow fatigue characteristics:

Filter media is supported so that the optimum fatigue life is achieved.

### Filtration media:

Microglass III and Ecoglass III for LEIF® elements.

Also available 10µm cellulose and 40µm stainless steel mesh.

### Element collapse rating:

10 bar (ISO 2941)

### Pressure indicator options:

Setting 0.7 or 1.2 bar.

Other settings on request.

Visual pressure gauge.

Electrical pressure switch.

### Options:

Diffuser with and without (type P) perforated flow area for optimum flow path in the reservoir.

### Magnetic pack:

Standard.

### Filling port in cover: (optional)

Plugged.

### Filter element:

LEIF® element with reusable metal element sleeve.

Optional conventional style element with steel end caps.

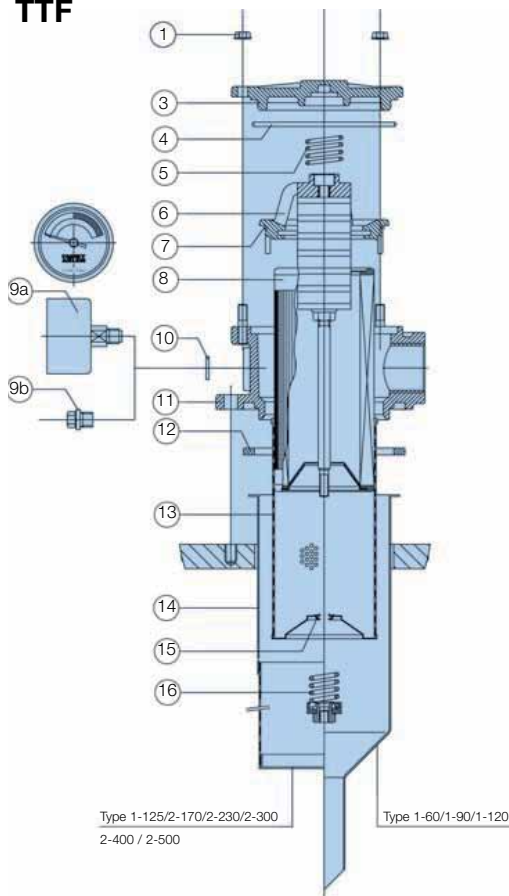
The LEIF® element is patented and safeguards the use of genuine parts.

Note: LEIF® element can be used with mineral and HEES type oils.

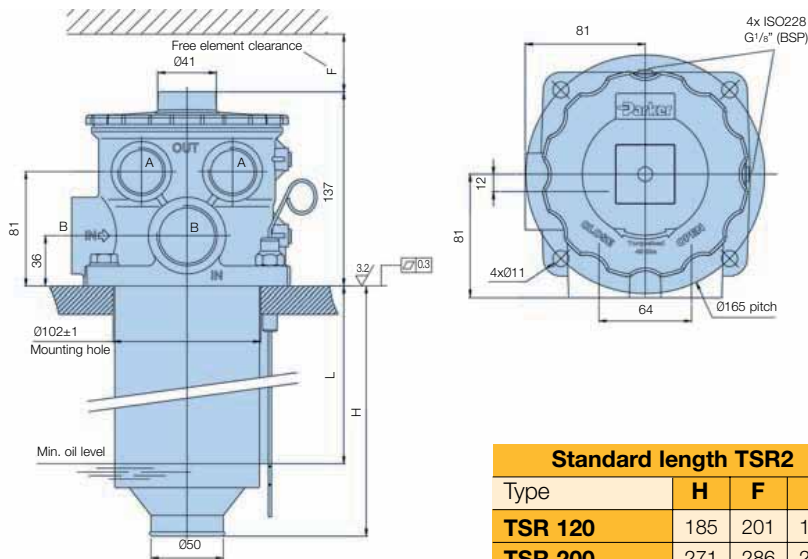
For other fluids consult Parker Filtration.

LEIF® contributes to ISO 14001 quality standards.

## TTF



## TSR



### Standard length TSR2

Type	H	F	L
TSR 120	185	201	150
TSR 200	271	286	286
TSR 250	404	421	369

Dimensions in mm

Ports A	Ports B
G1 (BSP)	G1 1/4 (BSP)
SAE16	SAE20

Note: All ports for return flow only

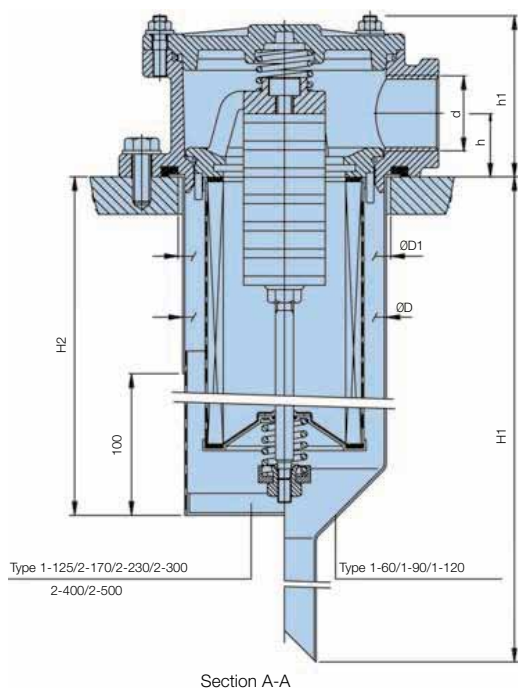
### Technical specification

Max nominal return flow	120-200-250 l/min
Max working pressure	10 bar
Temperature range	-30°C to +100°C
Bypass pressure	1,5 bar
LEIF®-filtration ratio	2µ/5µ/10µ/20µ
Seals	NBR
Options	Dipstick Indicator (electrical/visual)

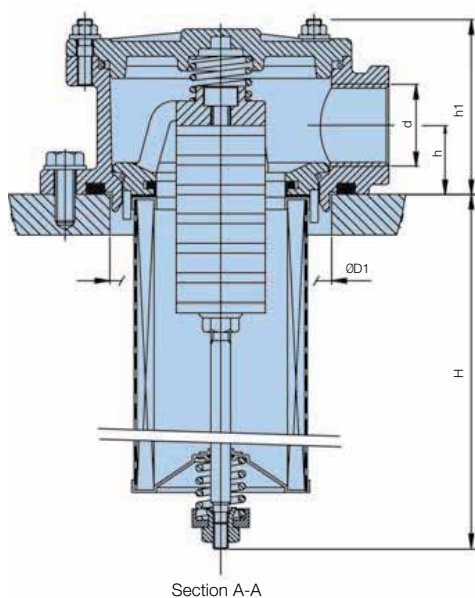
TTF sealkit: No. 4+7+12		
Ref.	No.	Description
1	4	Flange nut
3	1	Cover
4	1	Cover-seal
5	1	Top-spring
6	1	Insert
7	1	Insert-seal
8	1	Element
9a	0-1	Indicator
9b	0-3	Plug M10x1
10	0-3	Unit-ring
11	1	Housing
12	1	Gasket
13	1	Sleeve
14	1	Funnel/diffuser
15	1	O-ring
16	1	Bypass set



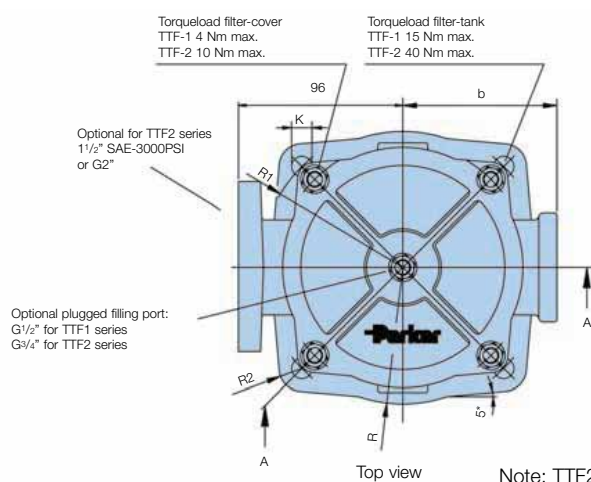
## Specification (cont.)



with funnel



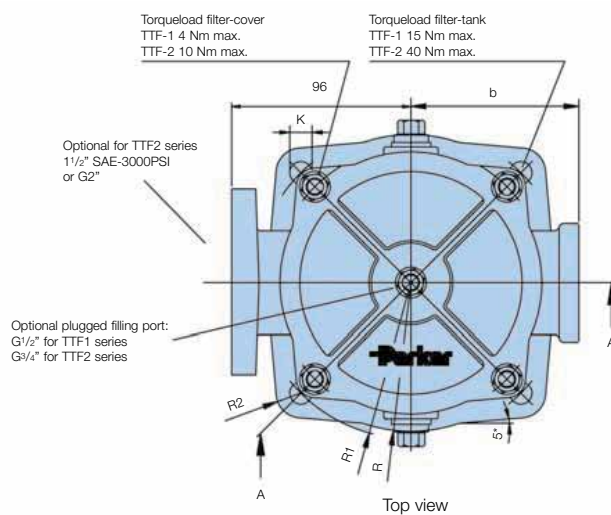
without funnel



Note: TTF2-400 and TTF2-500 are standard supplied without magnets

Type	d=BSP	h	h1	ØD	ØD1	H1	H2	b	R	R1	R2	K
TTF60	G1/2, G3/4, G1	28	73	Ø90	Ø93	230		68	60	63	10	4xØ9
TTF90						280						
TTF120						330						
TTF125							420					
TTF170	G1 1/4, G1 1/2	36	92	Ø132	Ø136		305	90	83	87.5	12	4xØ11
TTF230							305					
TTF300							510					
TTF400							525					
TTF500							575					

Dimensions in mm



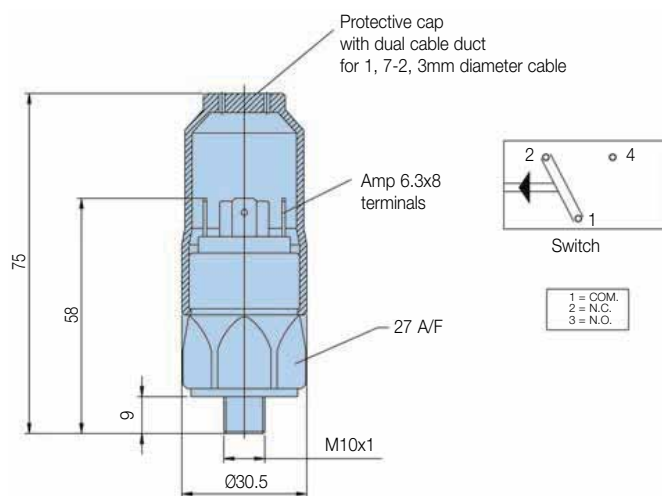
Note: TTF2-400 and TTF2-500 are standard supplied without magnets

Type	d=BSP	b	ØD1	h	h1	H	R	R1	R2	K
TTF60	1/2", 3/4", 1"	68	Ø91	28	73	131	60	63	10	4xØ9
TTF90						175				
TTF120						225				
TTF125						325				
TTF170	1 1/4", 1 1/2"	90	Ø134	36	92	223	83	87.5	12	4xØ11
TTF230						303				
TTF300						508				
TTF400						523				
TTF500						558				

Dimensions in mm

## Indicator Options

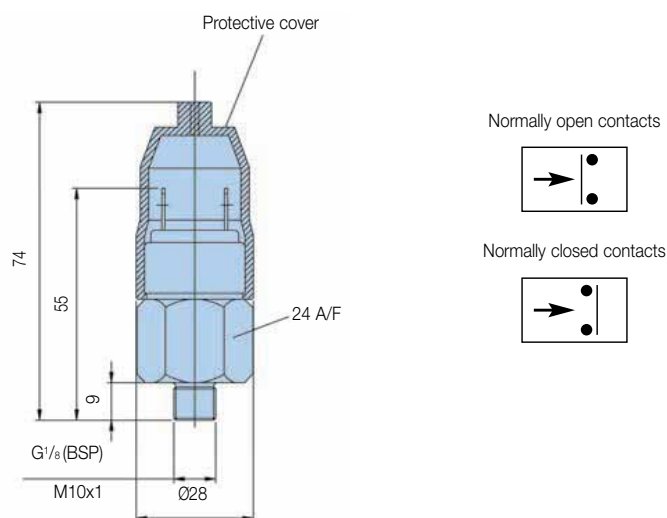
### Indicator PS pressure switch



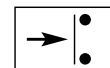
#### Specifications

Elec.rating	42V / 4A
Thread connection	M10x1
Elec.connection	AMP 6.3x0.8 terminals + protective cap
Protection	IP65 (with cap) terminals IP00
Code	FMUS1EBMM10L (Switch)

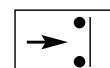
### Indicator PS NO/NC pressure switch



Normally open contacts



Normally closed contacts



#### Specifications

Elec.rating	42V / 2A
Thread connection	G1/8 - M10x1
Elec.connection	AMP terminal 6.3x0.8
Protection	IP65 (terminal IP00)
Switch type	NO or NC
Code	FMUS2EBMG02L (NO switch) FMUS3EBMG02L (NC switch)

#### Visual indicator

Visual indicator	1.2 bar
M10: code	FMUG1EBPM10L
G1/8: code	FMUG2EBPG02L

## Ordering Information

### Standard products table

Part number	Supersedes	Flow (l/min)	Model number	Element length	Media rating (μ)	Seals	Indicator	Bypass settings	Ports	Included options	Replacement elements	Supersedes
TTF310QLBP2EG121	TTF90-G <sup>3</sup> / <sub>4</sub> TXWL3-10 B15 MM	90	TTF90	Length 3	10	Nitrile	Plugged	1.5 Bar (22 Psi)	G <sup>3</sup> / <sub>4</sub>	None	937878Q	TXWL3-10
TTF320QLBP2EG121	TTF90-G <sup>3</sup> / <sub>4</sub> TXWL3-20 B15 MM	90	TTF90	Length 3	20	Nitrile	Plugged	1.5 Bar (22 Psi)	G <sup>3</sup> / <sub>4</sub>	None	937877Q	TXWL3-20
TTF510QLBP2EG161	TTF125-G1 TXWL3E-10 B15 MM	125	TTF125	Length 5	10	Nitrile	Plugged	1.5 Bar (22 Psi)	G1	None	937852Q	TXWL3E-10
TTF520QLBP2EG161	TTF125-G1 TXWL3E-20 B15 MM	125	TTF125	Length 5	20	Nitrile	Plugged	1.5 Bar (22 Psi)	G1	None	937875Q	TXWL3E-20
TTF610QLBP2EG203	TTF170-G1 <sup>1</sup> / <sub>4</sub> TXWL4-10 T B15 MM	170	TTF170	Length 6	10	Nitrile	Plugged	1.5 Bar (22 Psi)	G1 <sup>1</sup> / <sub>4</sub>	Diffuser type T	937853Q	TXWL4-10
TTF620QLBP2EG203	TTF170-G1 <sup>1</sup> / <sub>4</sub> TXWL4-20 T B15 MM	170	TTF170	Length 6	20	Nitrile	Plugged	1.5 Bar (22 Psi)	G1 <sup>1</sup> / <sub>4</sub>	Diffuser type T	937874Q	TXWL4-20
TTF810QLBP2EG243	TTF300-G1 <sup>1</sup> / <sub>2</sub> TXWL5A-10 T B15 MM	300	TTF300	Length 8	10	Nitrile	Plugged	1.5 Bar (22 Psi)	G1 <sup>1</sup> / <sub>2</sub>	Diffuser type T	937855Q	TXWL5A-10
TTF820QLBP2EG243	TTF300-G1 <sup>1</sup> / <sub>2</sub> TXWL5A-20 T B15 MM	300	TTF300	Length 8	20	Nitrile	Plugged	1.5 Bar (22 Psi)	G1 <sup>1</sup> / <sub>2</sub>	Diffuser type T	937872Q	TXWL5A-20
TTF1010QLBP2HG24A	TTF500-G1 <sup>1</sup> / <sub>2</sub> TXWL5C-10 T B20 MM NMG	500	TTF500	Length 10	10	Nitrile	Plugged	2.0 Bar (29 Psi)	G1 <sup>1</sup> / <sub>2</sub>	Diffuser type T	937857Q	TXWL5C-10
TTF1010QLBP2HG24A	TTF500-G1 <sup>1</sup> / <sub>2</sub> TXWL5C-20 T B20 MM NMG	500	TTF500	Length 10	20	Nitrile	Plugged	2.0 Bar (29 Psi)	G1 <sup>1</sup> / <sub>2</sub>	Diffuser type T	937870Q	TXWL5C-20

Note: Filter assemblies ordered from the product configurator on the next page are on extended lead times. Where possible, please make your selection from the table above.

## Ordering Information (cont.)

### Product configurator

#### Configurator example of a TTF Series filter

Box 1	Box 2	Box 3	Box 4	Box 5	Box 6	Box 7	Box 8
<b>TTF</b>	<b>9</b>	<b>05QL</b>	<b>V</b>	<b>S3</b>	<b>H</b>	<b>L24</b>	<b>1</b>

#### Configurator example of a TSR Series filter

Box 1	Box 2	Box 3	Box 4	Box 5	Box 6	Box 7	Box 8
<b>TSR</b>	<b>3</b>	<b>20QL</b>	<b>B</b>	<b>G2</b>	<b>E</b>	<b>2G20</b>	<b>3</b>

Box 1	Box 2	Box 3
Code	Filter type	Degree of filtration
<b>TTF</b>	<b>Housing</b>	<b>Element media</b>
TSR	Code	<b>Glass fibre</b>
	TTF 1-60	Microglass III (for disposable elements)
	TTF 1-90	Cellulose
	TTF 1-120	Nom. rating
	TTF 1-125	2µ media
	TTF 1-170	5µ media
	TTF 2-230	10µ media
	TTF 2-300	20µ media
	TTF 2-400	Wire mesh
	TTF 2-500	Abs. rating
	TSR2-120	Disposible element
	TSR2-200	10C
	TSR2-250	02Q
		05Q
		10Q
		20Q
		040W
		<b>LEIF<sup>®</sup> element</b>
		02QL
		05QL
		10QL
		20QL

Box 4	Seal type
	<b>Seal material</b>
	Code
	Nitrile
	Fluorelastomer
	Neoprene

Box 5	Indicator
	<b>Code</b>
	Pressure gauge, setting 1.2 bar, M10x1
	Pressure gauge, setting 1.2 bar, G <sup>1</sup> / <sub>8</sub> for dual head ports and TSR series
	Pressure switch 42V, 1.2 bar setting, NO/NC, M10x1
	Pressure switch 42V, 1.2 bar setting, NO with G <sup>1</sup> / <sub>8</sub> BSP
	Pressure switch 42V, 1.2 bar setting, NC with G <sup>1</sup> / <sub>8</sub> BSP
	Pressure switch 250V, NO/NC with G <sup>1</sup> / <sub>8</sub>
	Pressure switch 220V, NO/NC with M10
	No indicator, indicator ports not machined
	No indicator, indicator port R plugged
	No indicator, indicator ports L + R plugged
	Other settings for indicators / gauges on request

Box 6	Bypass valve
	<b>Bypass valve</b>
	Code
	0.8 bar
	1.5 bar
	2.0 bar for TTF series
	Blocked bypass
	Other bypass settings

Box 7	Filter connection
	<b>Ports</b>
	Code
	G <sup>3</sup> / <sub>4</sub> " (BSP) (1-60/1-90/1-120)
	G1" (BSP) (1-60/1-90/1-120)
	G1 <sup>1</sup> / <sub>4</sub> " (BSP) (2-170/2-230/2-300/2-400/2-500)
	G1 <sup>1</sup> / <sub>2</sub> " (BSP) (2-170/2-230/2-300/2-400/2-500)
	1 <sup>1</sup> / <sub>2</sub> " SAE-3000 PSI (2nd port) + G1 <sup>1</sup> / <sub>2</sub> "
	G2" (2nd port) + G1 <sup>1</sup> / <sub>2</sub> "
	G1 <sup>1</sup> / <sub>4</sub> " (BSP) + 2 Ports G1" (TSR only)
	2xG1 <sup>1</sup> / <sub>2</sub> " (BSP) + 2 Ports G1" (TSR only)
	SAE20 + 2 Ports A SAE16 (TSR only)
	2xSAE20 + 2 Ports SAE16 (TSR only)

Box 8	Options
	<b>Options</b>
	Code
	No diffuser required
	Diffuser type T with perforated plate area
	Diffuser type P without perforated plate area
	Diffuser with integrated hose connection
	No magnets
	Dipstick
	Plugged filling port
	Diffuser type T and no magnets
	Diffuser type P and no magnets
	Diffuser type T, no magnets, plugged filling port
	Diffuser type P, no magnets, plugged filling port
	Other combinations

Note 1: Part numbers featured with bold highlighted codes will ensure a 'standard' product selection.  
Note 2: Alternate displayed part number selection will require you to contact Parker Filtration for availability.

Degree of filtration						Media code
Average filtration beta ratio β (ISO 16889) / particle size μm [c]						
βx(c)=2	βx(c)=10	βx(c)=75	βx(c)=100	βx(c)=200	βx(c)=1000	
% efficiency, based on the above beta ratio (βx)						
50.0%	90.0%	98.7%	99.0%	95.5%	99.8%	
N/A	N/A	N/A	N/A	N/A	4.5	02Q/02QL
N/A	N/A	4.5	5	6	7	05Q/05QL
N/A	6	8.5	9	10	12	10Q/10QL
6	11	17	18	20	22	20Q/20QL

### Highlights Key (Denotes part number availability)

<b>123</b>	Item is standard
<b>123</b>	Item is standard with "green" options
<b>123</b>	Item is semi standard
123	Item is non standard

Note: Standard items are in stock, semi standard items are available within four weeks

## Ordering Information (cont.)

**Supersedes spare element table**

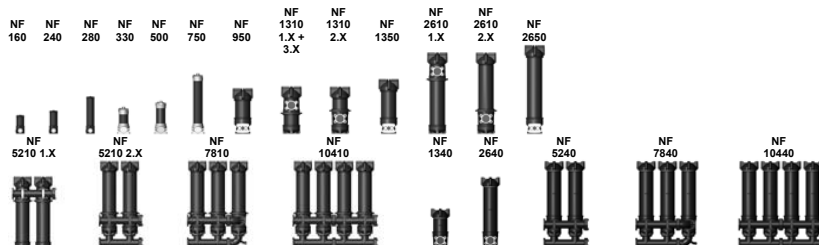
TTF 1-60	TXWL2-2	TXWL2-5	TXWL2-10	TXWL2-20
Part number spare element	937823Q	937880Q	937881Q	937882Q
TTF 1-90	TXWL3-2	TXWL3-5	TXWL3-10	TXWL3-20
Part number spare element	937824Q	937879Q	937878Q	937877Q
TTF 1-120	TXWL3D-2	TXWL3D-5	TXWL3D-10	TXWL3D-20
Part number spare element	937825Q	937825Q	937851Q	937876Q
TTF 1-125	TXWL3E-2	TXWL3E-5	TXWL3D-10	TXWL3E-20
Part number spare element	937826Q	937849Q	937852Q	937875Q
TTF 1-170	TXWL4-2	TXWL4-5	TXWL4-10	TXWL4-20
Part number spare element	937827Q	937848Q	937853Q	937874Q
TTF 1-230	TXWL5-2	TXWL5-5	TXWL5-10	TXWL5-20
Part number spare element	937828Q	937847Q	937854Q	937873Q
TTF 1-300	TXWL5A-2	TXWL5A-5	TXWL5A-10	TXWL5A-20
Part number spare element	937829Q	937846Q	937855Q	937872Q
TTF 1-400	TXWL5B-2	TXWL5B-5	TXWL5B-10	TXWL5B-20
Part number spare element	937830Q	937845Q	937856Q	937871Q
TTF 1-500	TXWL5C-2	TXWL5C-5	TXWL5C-10	TXWL5C-20
Part number spare element	937831Q	937844Q	937857Q	937870Q
TSR120	PXWL3-2	PXWL3-5	PXWL3-10	PXWL3-20
Part number spare element	937886Q	937889Q	937892Q	937895Q
TSR200	PXWL4-2	PXWL4-5	PXWL4-10	PXWL4-20
Part number spare element	937887Q	937890Q	937893Q	937896Q
TSR250	PXWL4A-2	PXWL4A-5	PXWL4A-10	PXWL4A-20
Part number spare element	937888Q	937891Q	937894Q	937897Q

**Supersedes spare element table**

TTF 1-60	TXX2-10-B	TXW2-2-B	TXW2-5-B	TXW2-10-B	TXW2-20-B	ST2-40-B
Part number spare element	937721	937751Q	937754Q	937787Q	937790Q	937820
TTF 1-90	TXX3-10-B	TXW3-2-B	TXW3-5-B	TXW3-10-B	TXW3-20-B	ST3-40-B
Part number spare element	937722	937750Q	937755Q	937786Q	937791Q	937819
TTF 1-120	TXX3D-10-B	TXW3D-2-B	TXW3D-5-B	TXW3D-10-B	TXW3D-20-B	ST3D-40-B
Part number spare element	937723	937749Q	937756Q	937785Q	937792Q	937818
TTF 1-125	TXX3E-10-B	TXW3E-2-B	TXW3E-5-B	TXW3E-10-B	TXW3E-20-B	ST3E-40-B
Part number spare element	937724	937748Q	937757Q	937748Q	937793Q	937817
TTF 1-170	TXX4-10-B	TXW4-2-B	TXW4-5-B	TXW4-10-B	TXW4-20-B	ST4-40-B
Part number spare element	937725	937747Q	937758Q	937783Q	937794Q	937816
TTF 1-230	TXX5-10-B	TXW5-2-B	TXW5-5-B	TXW5-10-B	TXW5-20-B	ST5-40-B
Part number spare element	937726	937746Q	937759Q	937782Q	937795Q	937815
TTF 1-300	TXX5A-10-B	TXW5A-2-B	TXW5A-5-B	TXW5A-10-B	TXW5A-20-B	ST5A-40-B
Part number spare element	937727	937745Q	937760Q	937781Q	937796Q	937814



# Inline Filter or Tank Top Return Line Filter NF up to 3500 l/min, up to 25 bar



## 1. TECHNICAL SPECIFICATIONS

### 1.1 FILTER HOUSING

#### Construction

The filter housings are designed in accordance with international regulations. They consist of a filter housing and a threaded cover plate. Standard equipment:

- with bypass valve
- connection for a clogging indicator

### 1.2 FILTER ELEMENTS

HYDAC filter elements are validated and their quality is constantly monitored according to the following standards:

- ISO 2941
- ISO 2942
- ISO 2943
- ISO 3724
- ISO 3968
- ISO 11170
- ISO 16889

#### Contamination retention capacities in g

Betamicon® (BN4HC)					
NF	Elements	3 µm	5 µm	10 µm	20 µm
160	1x0160R	18.6	20.7	24.9	28.1
240	1x0240R	29.3	32.5	39.1	44.2
280	1x0280R	62.3	69.0	83.0	93.9
330	1x0330R	38.4	42.6	51.2	57.9
500	1x0500R	58.9	65.3	78.6	88.9
750	1x0750R	147.1	163.0	196.1	221.9
950	1x0950R	130.0	144.1	173.3	196.1
13XX	1x1300R	181.0	200.7	241.4	273.1
26XX	1x2600R	369.4	409.4	492.5	557.2
52XX	2x2600R	738.8	818.8	985.0	1114.4
78XX	3x2600R	1108.2	1228.2	1477.5	1671.6
104XX	4x2600R	1477.6	1637.6	1970.0	2228.8

Filter elements are available with the following pressure stability values

Betamicon® (BN4HC):	20 bar
Wire mesh (W/HC):	20 bar
Stainless steel fibre (V):	30 bar
ECOMicon® (ECON2)	10 bar
Paper (P/HC)	10 bar
Betamicon®/Aquamicon® (BN4AM):	10 bar
Aquamicon® (AM)	10 bar

### 1.3 FILTER SPECIFICATIONS

Nominal pressure	25 bar
Temperature range	-10 °C to +100 °C
Material of filter head	Aluminium
Material of tube (housing)	Steel (aluminium for NF 1300)
Material of cover plate	Aluminium
Type of clogging indicator	VM (differential pressure indicator; for inline mounting) VR (return line indicator; for tank-top mounting)
Setting pressure of clogging indicator	5 bar (others on request)
Bypass cracking pressure	3 bar (others on request)

### 1.4 SEALS

NBR (= Perbunan)

### 1.5 MOUNTING

As inline filter or tank-top return line filter.

### 1.6 SPECIAL MODELS AND ACCESSORIES

- Mounting bracket for NF 1310/2610
- Filling connection for NF 330, 500, 750, 950, 1350, 2650 on the contaminated side
- Foot bracket option for NF 160-750, 950, 1350, 2650
- Quick release coupling on the filling connection for NF 160, 240, 280
- Check valve on the clean side for NF 160, 240, 280
- For applications up to 40 bar please enquire separately! (only for NF 950, 1350, 2650)

### 1.7 SPARE PARTS

See Original Spare Parts List

### 1.8 CERTIFICATES AND APPROVALS

On request

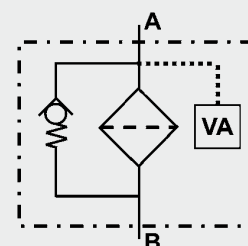
### 1.9 COMPATIBILITY WITH HYDRAULIC FLUIDS ISO 2943

- Hydraulic oils H to HLPD DIN 51524
- Lubrication oils DIN 51517, API, ACEA, DIN 51515, ISO 6743
- Compressor oils DIN 51506
- Biodegradable operating fluids VDMA 24568 HETG, HEES, HEPG
- Non-flam operating fluids HFA, HFB, HFC and HFD
- Operating fluids with high water content (>50% water content) on request

### 1.10 IMPORTANT INFORMATION

- Filter housing must be earthed
- When using visual clogging indicators, the BM version (visual with manual reset) only should be used.
- When using electrical clogging indicators, the electrical power supply to the system must be switched off before removing the clogging indicator connector

#### Symbol for hydraulic systems



## 2. MODEL CODE (also order example)

### 2.1 COMPLETE FILTER

Filter type

NF

Filter material of element

BN/HC: Betamicon® (BN4HC) P/HC: Paper V: stainless steel fibre

ECO/N: ECOMicon® (ECON2) BN/AM: Betamicon®/Aquamicron®

W/HC: Stainless steel wire mesh AM: Aquamicron®

Size of filter or element

NF: 160, 240, 280, 330, 500, 750, 950, 1310, 1340, 1350, 2610, 2640, 2650, 5210, 5240, 7810, 7840, 10410, 10440

Operating pressure

D = 25 bar

Type and size of port

Type	Port	Filter size	160	240	280	330	500	750	950	1310	1340	1350	2610	2640	2650	5210	5240	7810	7840	10410	10440
E	G1½		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
K	SAE DN 40 (1½")																				
L	SAE DN 50 (2")																				
M	SAE DN 65 (2½")																				
N	SAE DN 80 (3")																				
P	SAE DN 100 (4")																				

○ =  
Discontinued  
model

Filtration rating in µm

BN4HC, ECO/N, V: 3, 5, 10, 20 BN/AM: 3, 10 P/HC: 10, 20

W/HC: 25, 50, 100, 200 AM: 40

Type of clogging indicator

A with steel blanking plug in indicator port

BM visual indicator

C electrical indicator

D visual and electrical indication

for other clogging indicators, see  
brochure no. E 7.050.../...

Type code

1 - Tank-top return line filter return line indicator VR  
inlet flange horizontal at top, outlet vertical - from size NF 5210: horizontal  
tank seal supplied

2 - Inline filter differential pressure indicator VM  
inlet flange horizontal at bottom, outlet vertical - from size NF 5210 horizontal,  
only for NF 950, 1350, 2650:

- differential pressure indicator VM  
- inlet and outlet horizontal and opposite

3 - Inline filter differential pressure indicator VM  
inlet flange horizontal at top, outlet vertical

Code	Filter size	160	240	280	330	500	750	950	1310	1340	1350	2610	2640	2650	5210	5240	7810	7840	10410	10440
1									x			x			x					
2		•	•	•	•	•	•	•	○	•	•	○	•	•	○	•	○	•	○	•
3									○			○								

x = on request  
= standard model  
○ = discontinued model

Modification number

X the latest version is always supplied

Supplementary details

B. special cracking pressure of bypass valve (e. g.: B6 = 6 bar); no details = standard 3 bar

EM manual vent with shut-off valve

EP permanent vent via Minimesse hose

KB without bypass valve

L... light with appropriate voltage (24, 48, 110, 220 Volt) ] only for clogging

LED 2 light emitting diodes up to 24 Volt ] indicators type D

SB4 filling line with Ø 4 mm orifice

V FPM seals

### 2.2 REPLACEMENT ELEMENT

Size

0160, 0240, 0280, 0330, 0500, 0750, 0950, 1300, 2600

Type

R

Filtration rating in µm

BN4HC, ECON2, V: 003, 005, 010, 020 BN4AM: 003, 010 P/HC: 010, 020

W/HC: 025, 050, 100, 200 AM: 040

Filter material

BN4HC, ECON2, V, W/HC, BN4AM, AM, P/HC

Supplementary details

V (for descriptions, see point 2.1)

### 2.3 REPLACEMENT CLOGGING INDICATOR

(IMPORTANT: the clogging indicator must not be screwed into the cover plate!)

Type

VM differential pressure indicator (only for inline filter in version 2.X and 3.X)

VR return line indicator (only for tank-top filter in version 1.X)

Pressure setting

2 2 bar (5 = 5 bar), others on request

Type of clogging indicator (see point 2.1)

Modification number

X the latest version is always supplied

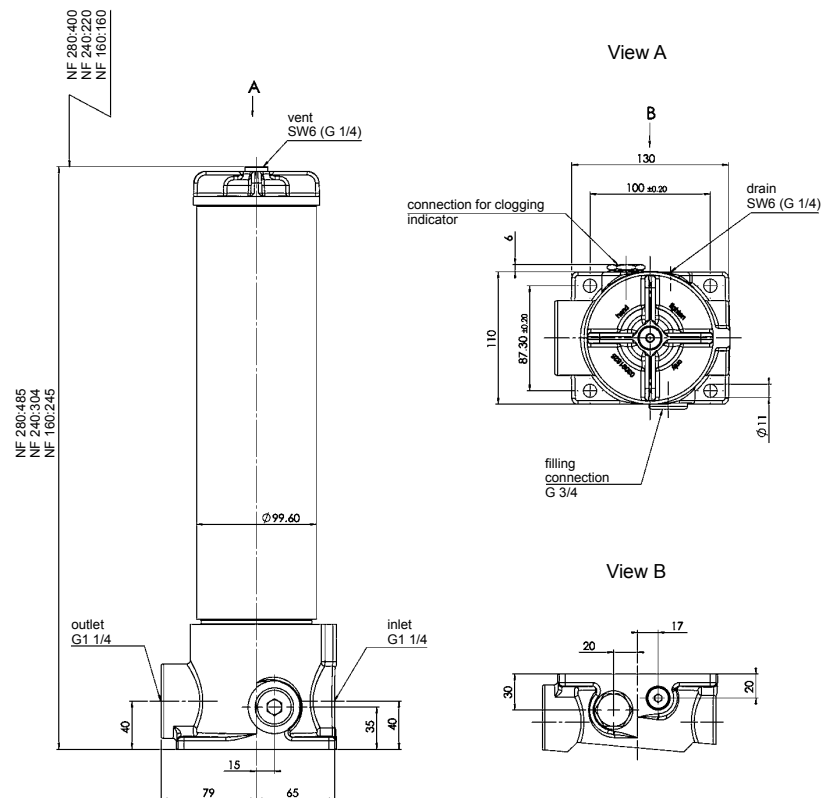
Supplementary details

L..., LED, V (for descriptions see point 2.1)

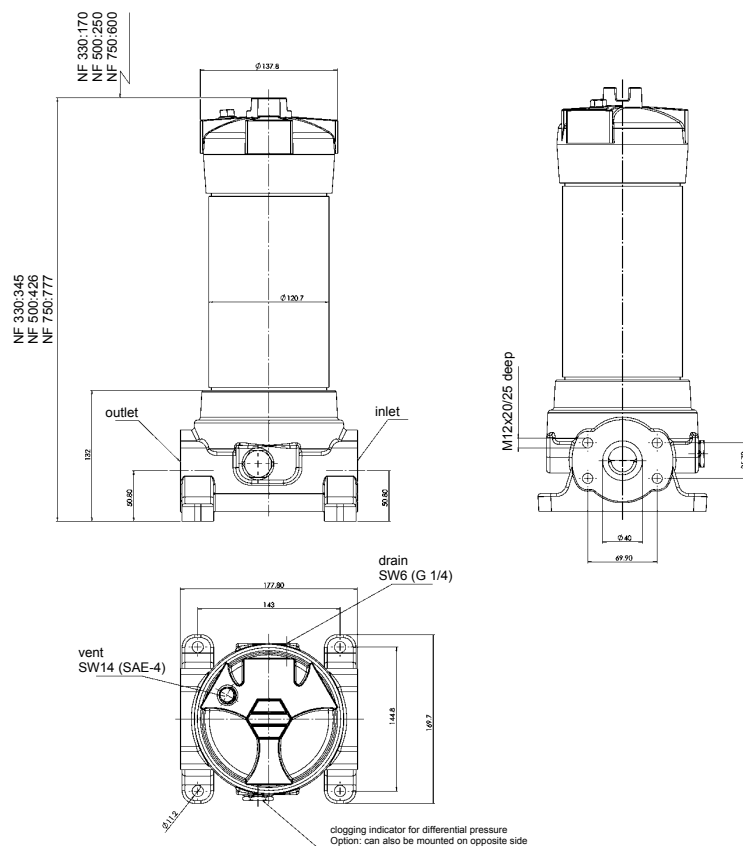


## 4. DIMENSIONS

NF 160-280



NF 330-750

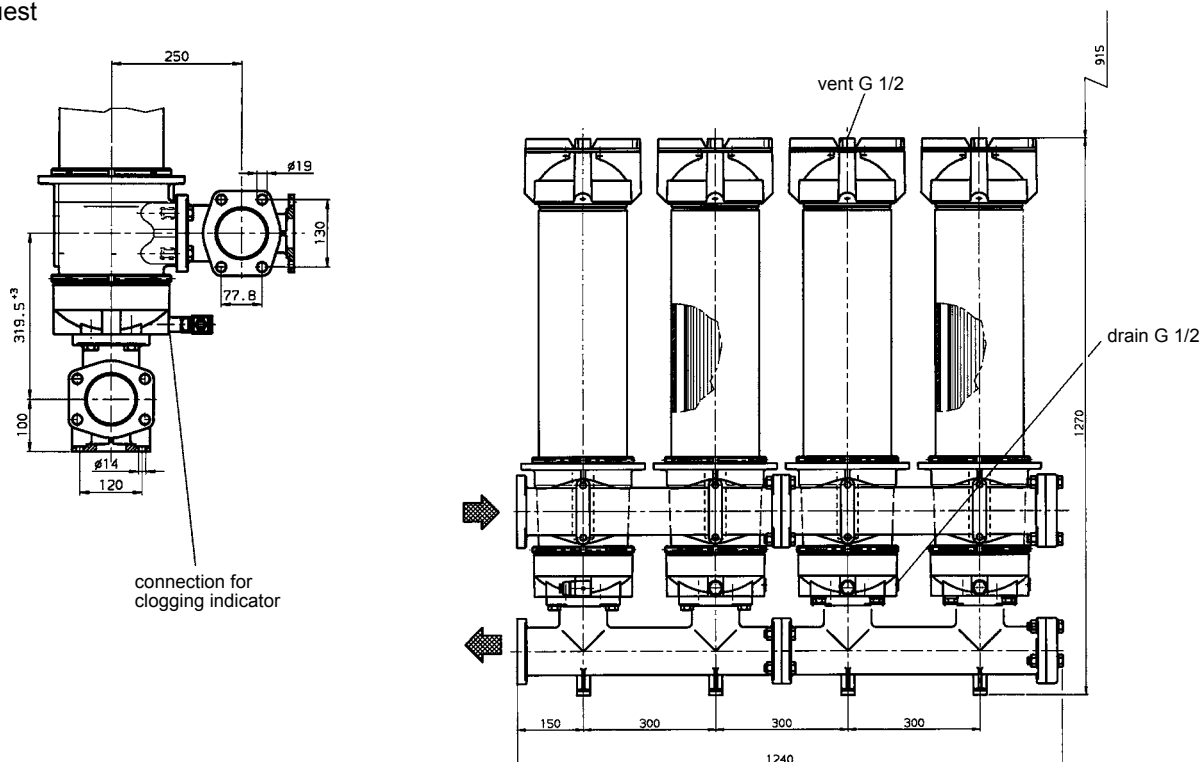


NF	No. of elements	Weight incl. element [kg]	Vol. of pressure chamber[l]
160	1x0160 R...	4.5	0.8
240	1x0240 R...	5.6	1.1
280	1x0280 R...	9.1	2.1

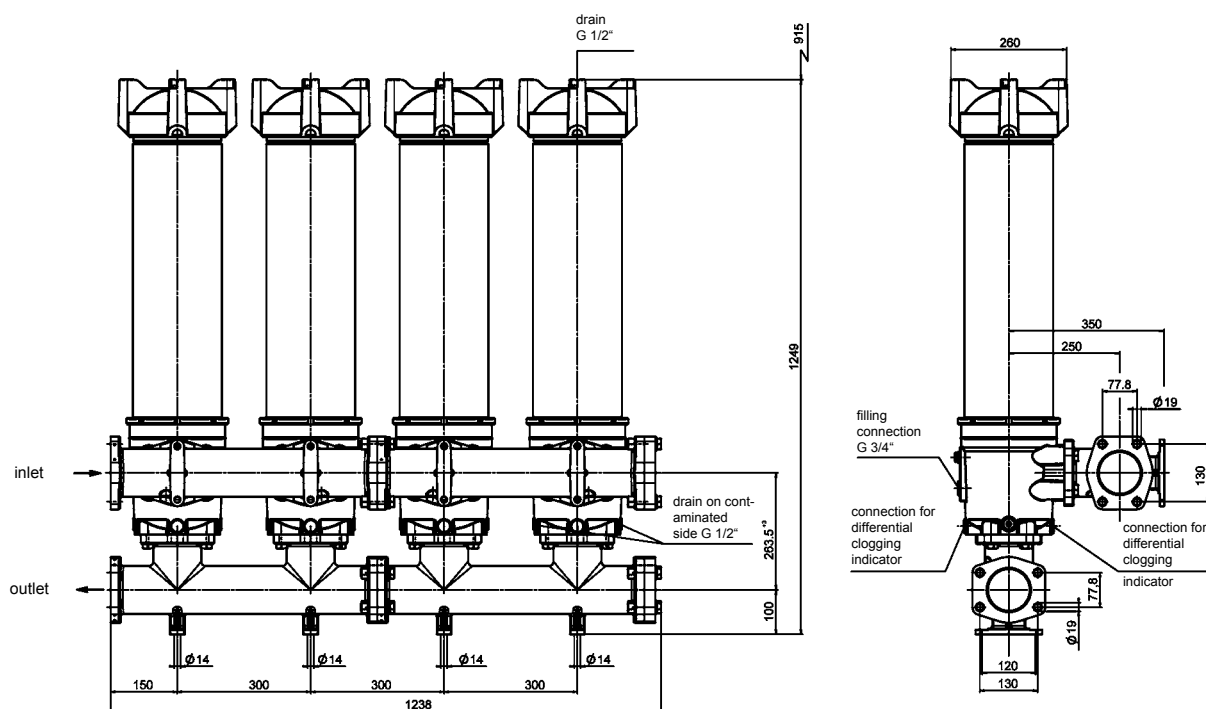
NF	No. of elements	Weight incl. element [kg]	Vol. of pressure chamber[l]
330	1x0330 R...	7.8	2.05
500	1x0500 R...	9.0	2.80
750	1x0750 R...	14.1	6.08



NF 10410  
On request



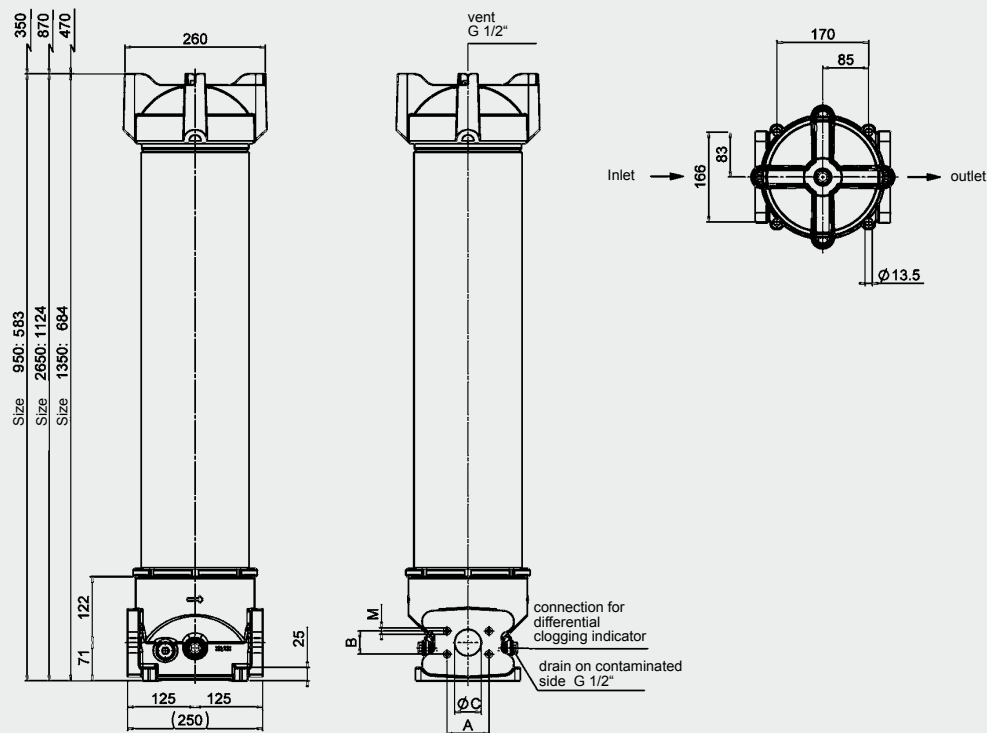
NF 10440  
Standard series



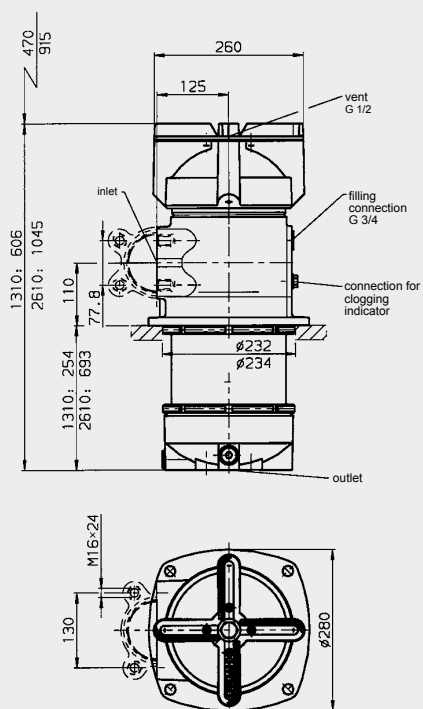
NF	No. of elements	Weight incl. element [kg]	Vol. of pressure chamber [l]
10410 / 10440	4x2600 R...	180	120

**NOTE:** The information in this brochure relates to the operating conditions and applications described. For applications or operating conditions not described, please contact the relevant technical department. Subject to technical modifications.

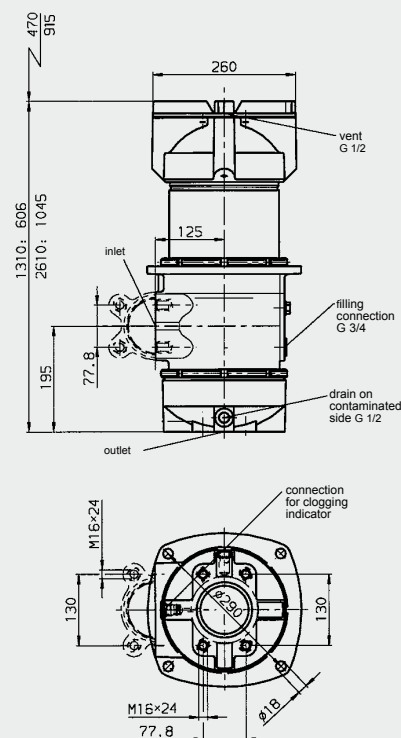
NF 950, 1350, 2650



NF 1310/2610 ... 1.X



NF 1310/2610 ... 2.X



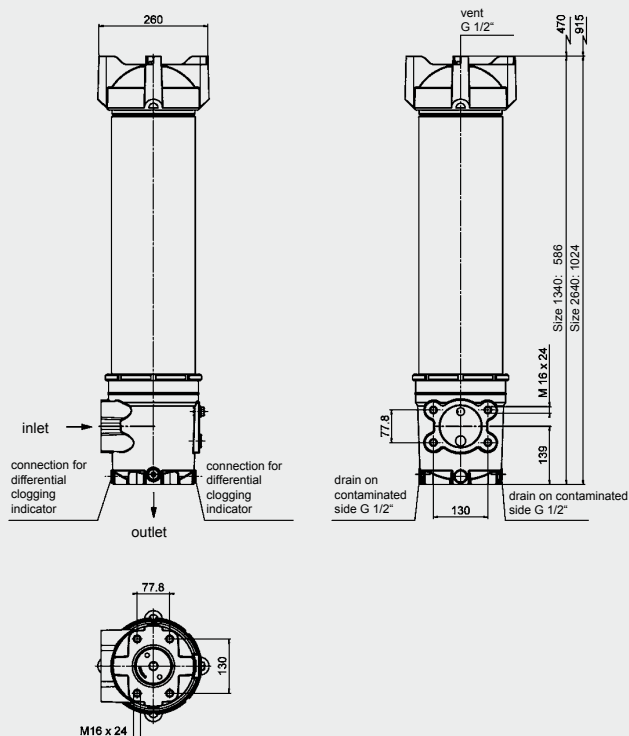
Port	A	B	ØC	M
SAE DN 50 (2")	77.8	42.9	50	M12x15
SAE DN 65 (2½")	88.9	50.8	65	M12x15
SAE DN 80 (3")	106.4	62.9	75	M16x24
SAE DN 100 (4")	130.2	77.8	100	M16

NF	No. of elements	Weight incl. element [kg]	Vol. of pressure chamber
1310...1.X	1x1300 R...	17	14
1310...2.X	1x1300 R...	17	14
1340...2.X	1x1300 R...	17	14

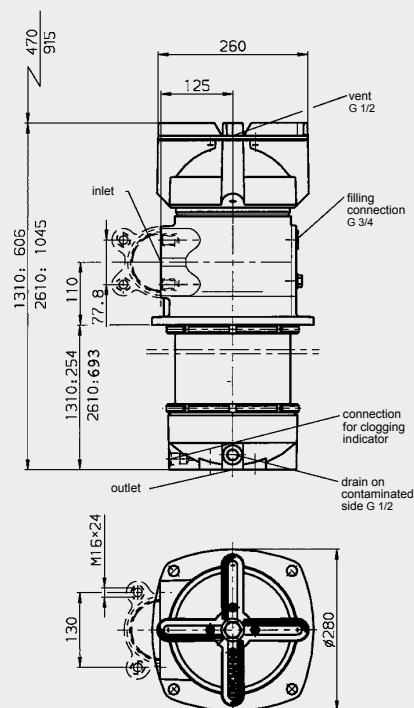
NF	No. of elements	Weight incl. element [kg]	Vol. of pressure chamber [l]
950	1x0950 R...	16	10
1350	1x1300 R...	18	13
2650	1x2600 R...	25	25

NF	No. of elements	Weight incl. element [kg]	Vol. of pressure chamber [l]
2610...1.X	1x2600 R...	23	25
2610...2.X	1x2600 R...	23	25
2640...2.X	1x2600 R...	23	25

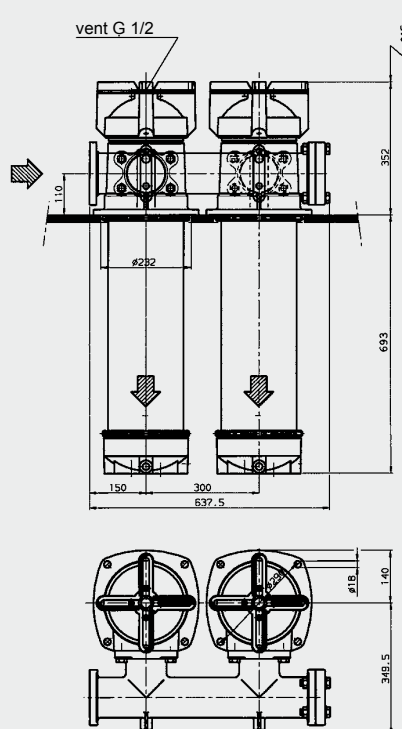
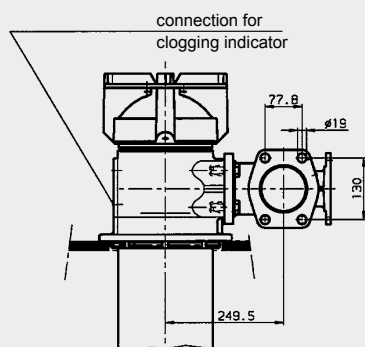
NF 1340/2640 ... 2.X  
Standard series



NF 1310/2610 ... 3.X  
On request



NF 5210 ... 1.X  
On request



NF	No. of elements	Weight incl. element [kg]	Vol. of pressure chamber [l]
1310...2.X	1x1300 R...	17	14
1340...2.X	1x1300 R...	17	14
1310...3.X	1x1300 R...	17	14

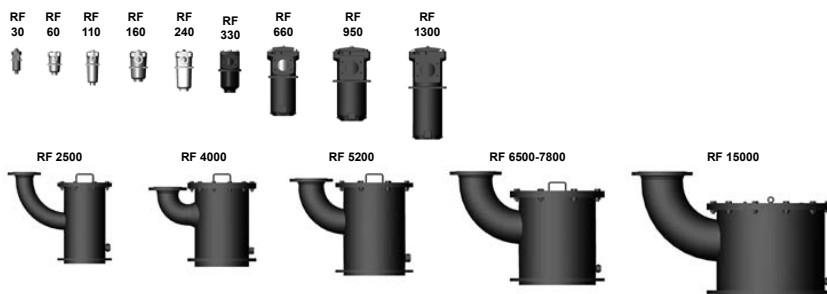
  

NF	No. of elements	Weight incl. element [kg]	Vol. of pressure chamber [l]
5210...1.X	2x2600 R...	68	55

NF	No. of elements	Weight incl. element [kg]	Vol. of pressure chamber [l]
2610...2.X	1x2600 R...	23	25
2640...2.X	1x2600 R...	23	25
2610...3.X	1x2600 R...	23	25

# Return Line Filter RF

## up to 15000 l/min, up to 25 bar



## 1. TECHNICAL SPECIFICATIONS

### 1.1 FILTER HOUSING

#### Construction

The filter housings are designed in accordance with international regulations. They consist of a filter housing with a screw-on cover plate. Standard equipment:

- with bypass valve
- connection for a clogging indicator

### 1.2 FILTER ELEMENTS

Hydac filter elements are validated and their quality is constantly monitored according to the following standards:

- ISO 2941
- ISO 2942
- ISO 2943
- ISO 3724
- ISO 3968
- ISO 11170
- ISO 16889

#### Contamination retention capacities in g

Betamicon® (BN4HC)					
RF	Elements	3 µm	5 µm	10 µm	20 µm
30	1x0030R	2.6	2.9	3.5	4.0
60	1x0060R	5.7	6.3	7.6	8.6
110	1x0110R	12.0	13.3	16.0	18.1
160	1x0160R	18.6	20.7	24.9	28.1
240	1x0240R	29.3	32.5	39.1	44.2
330	1x0330R	38.4	42.6	51.2	57.9
660	1x0660R	87.1	96.5	116.1	131.3
950	1x0950R	130.0	144.1	173.3	196.1
1300	1x1300R	181.0	200.7	241.4	273.1
2500	3x0850R	336.3	372.6	448.5	507.3
4000	5x0850R	560.5	621.0	747.5	845.5
5200	4x1300R	724.0	802.8	965.6	1092.4
6500	5x1300R	905.0	1003.5	1207.0	1365.5
7800	6x1300R	1086.0	1204.2	1448.4	1638.6
15000	10x1300R	1810.0	2007.0	2414.0	2731.0

Filter elements are available with the following pressure stability values:

Betamicon® (BN4HC):	20 bar
Paper (P/HC):	10 bar
Wire mesh (W/HC):	20 bar
Stainless steel fibre (V):	210 bar
Betamicon®/Aquamicon® (BN4AM):	10 bar
Aquamicon® (AM):	10 bar

### 1.3 FILTER SPECIFICATIONS

Nominal pressure	RF 30, 2500 to 15000: 10 bar RF 60 to 1300: 25 bar
Temperature range	-10 °C to +100 °C
Material of filter housing and cover plate	RF 30: PA 66 RF 60 to 330: Aluminium RF 660 to 1300: EN-GJS-400-15 RF 2500 to 15000: Welded steel
Type of clogging indicator	VR connection thread G ½ (return line indicator up to 25 bar operating pressure)
Pressure setting of clogging indicator	2 bar (others on request)
Bypass cracking pressure	3 bar (others on request)

### 1.4 SEALS

NBR (= Perbunan)

### 1.5 MOUNTING

As tank-top or inline filter

### 1.6 SPECIAL MODELS AND ACCESSORIES

On request

### 1.7 SPARE PARTS

See Original Spare Parts List

### 1.8 CERTIFICATES AND APPROVALS

On request

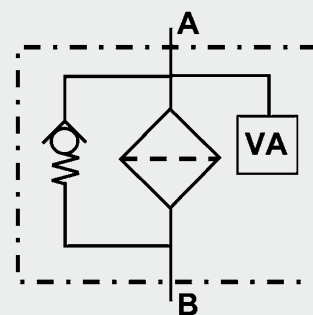
### 1.9 COMPATIBILITY WITH HYDRAULIC FLUIDS ISO 2943

- Hydraulic oils H to HLPD DIN 51524
- Lubrication oils DIN 51517, API, ACEA, DIN 51515, ISO 6743
- Compressor oils DIN 51506
- Biodegradable operating fluids VDMA 24568 HETG, HEES, HEPG
- Non-flam operating fluids HFA, HFB, HFC and HFD
- Operating fluids with high water content (>50% water content) on request

### 1.10 IMPORTANT INFORMATION

- Filter housing must be earthed
- When using electrical clogging indicators, the electrical power supply to the system must be switched off before removing the clogging indicator connector

#### Symbol for hydraulic systems



VA = clogging indicator

## 2. MODEL CODE (ALSO ORDER EXAMPLE)

### 2.1 COMPLETE FILTER

Filter type \_\_\_\_\_

RF

Filter material of element \_\_\_\_\_

BN/HC Betamicon® (BN4HC) P/HC Paper AM Aquamicon®  
V Stainless steel fibre W/HC Stainless steel wire mesh BN/AM Betamicon®/Aquamicon®

Size of filter or element \_\_\_\_\_

RF: 30, 60, 110, 160, 240, 330, 660, 950, 1300, 2500, 4000, 5200, 6500, 7800, 15000

Operating pressure \_\_\_\_\_

B = 10 bar (RF 30, 2500 to 15000)

D = 25 bar (RF 60 to 1300)

Type and size of port \_\_\_\_\_

Type	Port	Filter size														
		30	60	110	160	240	330	660	950	1300	2500	4000	5200	6500	7800	15000
B	G ½	●														
C	G ¾		●	●												
E	G 1¼				●	●										
G	G 2						●									
L	SAE DN 50 (2")						●									
M	SAE DN 80 (3")							●								
N*	G 3							●								
O	SAE DN 90 (3½")								●							
P	SAE DN 100 (4")									●						
R	DIN DN 100										●					
U	DIN DN 125										●	●	●			
V	DIN DN 150											●		●		
W	DIN DN 200													●	●	
X	DIN DN 250														●	●
Y	DIN DN 300															●

\* This port G3 applies to filter outlet only

Filtration rating in µm \_\_\_\_\_

BN/HC, V: 3, 5, 10, 20 P/HC: 10, 20 AM: 40  
W/HC: 25, 50, 100, 200 BN/AM: 3, 10

Type of clogging indicator \_\_\_\_\_

Y plastic blanking plug in indicator port  
A steel blanking plug in indicator port  
B visual  
C electrical  
D visual and electrical  
for other clogging indicators see brochure no. E 7.050../..

Type code \_\_\_\_\_

1 Standard connection  
2 RF 2500 to 15000: outlet for each filter element location spigot has threaded connection for pipe extension  
3 RF 2500 to 15000: common elbow outlet

Modification number \_\_\_\_\_

X the latest version is always supplied

Supplementary details \_\_\_\_\_

B cracking pressure of bypass (e.g. B6 = 6 bar)  
DE differential pressure measurement across element (RF 660, 950, 1300)  
DH cover plate lifting device (only for RF 2500 to 15000)  
GA mating weld connection flange in steel  
KB no bypass valve  
L... light with appropriate voltage (24V, 48V, 110V, 220V) only for clogging indicators  
LED 2 light emitting diodes up to 24 Volt type D  
O O-ring groove on the DIN inlet flange (only for RF 2500 to 15000)  
T with tank breather filter (only RF 30)  
V FPM seals

### 2.2 REPLACEMENT ELEMENT

Size \_\_\_\_\_

0030, 0060, 0110, 0160, 0240, 0330, 0660, 0950, 1300

Type \_\_\_\_\_

R

Filtration rating in µm \_\_\_\_\_

BN4HC, V: 003, 005, 010, 020 P/HC: 010, 020 AM: 040  
W/HC: 025, 050, 100, 200 BN4AM: 003, 010

Filter material \_\_\_\_\_

BN4HC, V, W/HC, P/HC, BN4AM, AM

Supplementary details \_\_\_\_\_

V (for descriptions, see point 2.1)

### 2.3 REPLACEMENT CLOGGING INDICATOR

Type \_\_\_\_\_

VR return line indicator up to 25 bar operating pressure

Pressure setting \_\_\_\_\_

2 standard 2 bar, others on request

Type of clogging indicator (see point 2.1) \_\_\_\_\_

Modification number \_\_\_\_\_

X the latest version is always supplied

Supplementary details \_\_\_\_\_

L..., LED, V (for descriptions, see point 2.1)

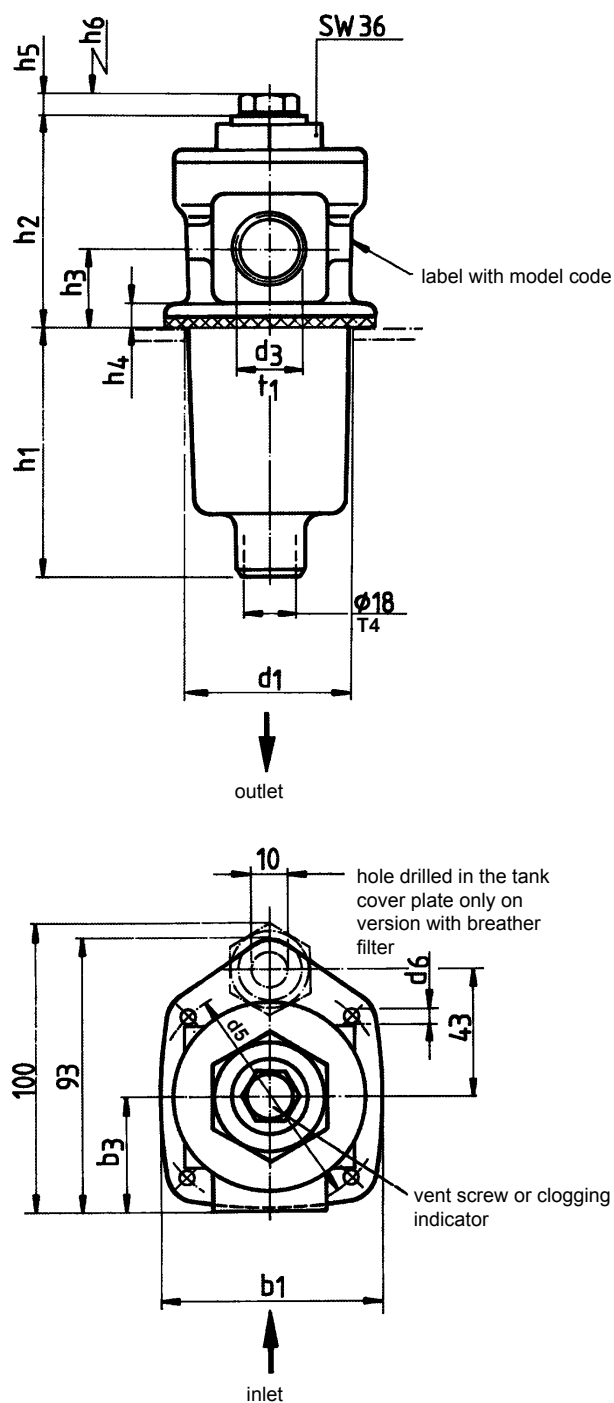
RF BN/HC 330 D L 10 D 1 . X /-L24

0330 R 010 BN4HC /-V

VR 2 D . X /-L24

#### 4. DIMENSIONS

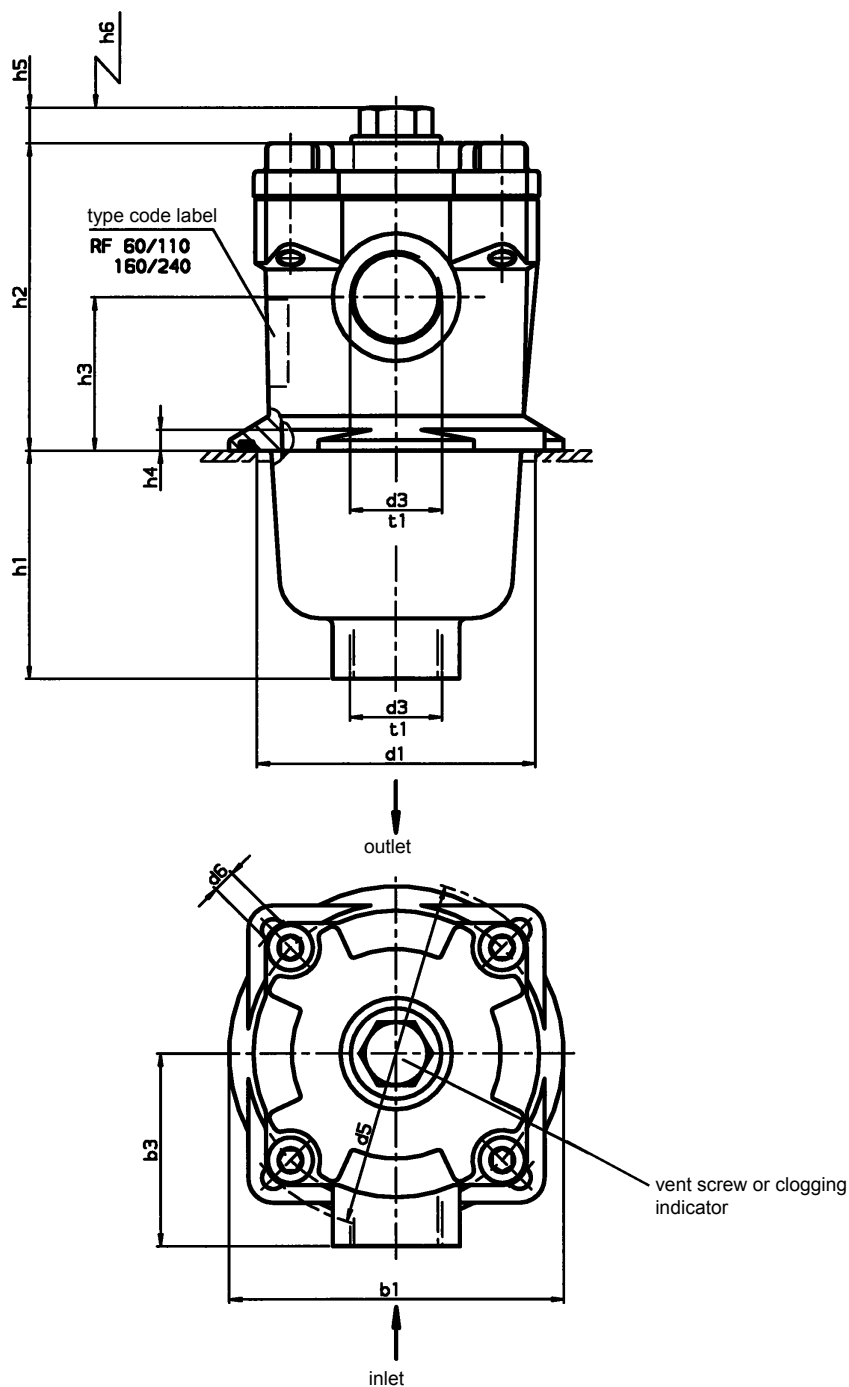
RF 30



RF	b1	b3	d1	d3 <sup>1)</sup>	d5	d6 <sup>2)</sup>	h1	h2	h3	h4	h5	h6	t1	t4	Weight including element [kg]	Volume of pressure chamber [l]
30	71	38	60	G ½	78	M4	86	70	27	8	11	90	14	14	0.4	0.18

<sup>1)</sup> Threaded port to ISO 228 / <sup>2)</sup> mounting hole for screw

RF 60-240



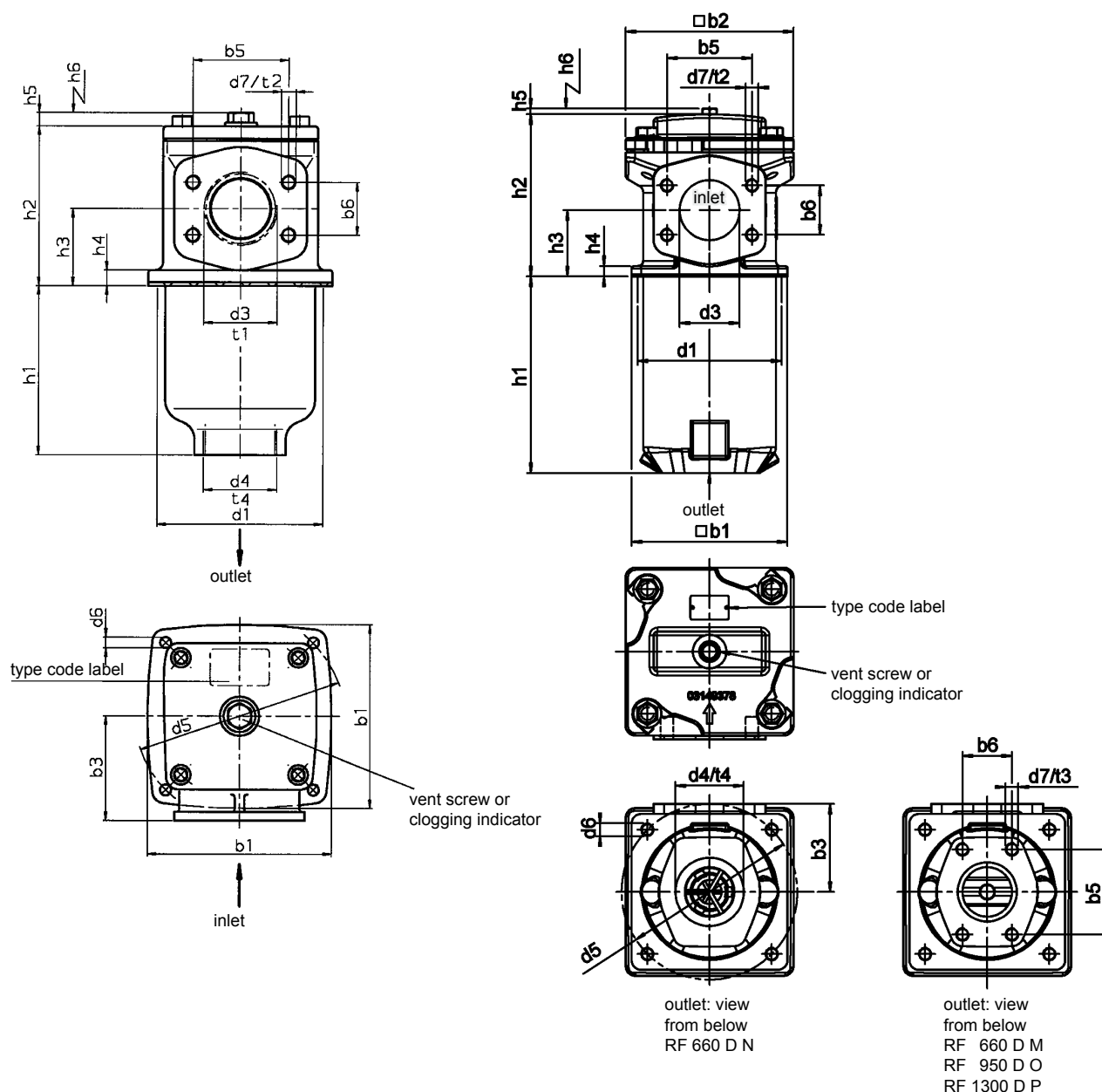
RF	b1	b3	d1	d3 <sup>1)</sup>	d5	d6 <sup>2)</sup>	h1	h2	h3	h4	h5	h6	t1	t4	Weight including element [kg]	Volume of pressure chamber [l]
60	96	55	80	G ¾	100	M5	66	88	44	6	12	80	17	-	0.9	0.40
110	96	55	80	G ¾	100	M5	133	88	44	6	12	145	17	-	1.1	0.60
160	126	72	106	G 1¼	135	M6	89	108	54	6	12	120	20	-	1.8	1.00
240	126	72	106	G 1¼	135	M6	150	108	54	6	12	180	20	-	2.2	1.40

<sup>1)</sup> Threaded port to ISO 228 / <sup>2)</sup> mounting hole for screw



RF 330

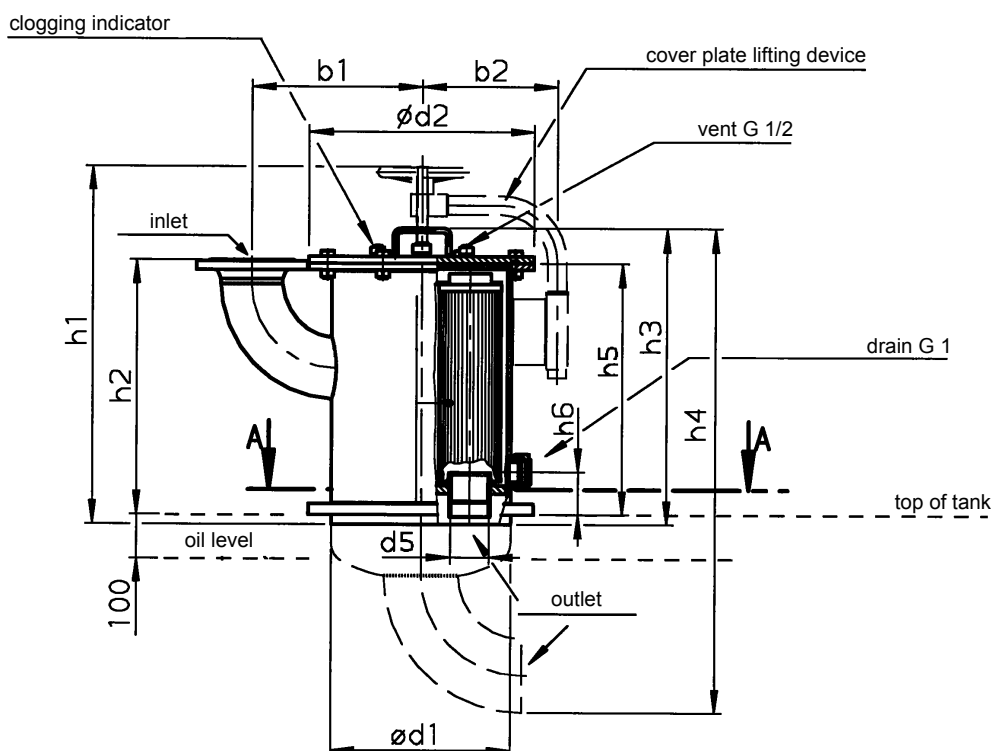
RF 660 - 1300



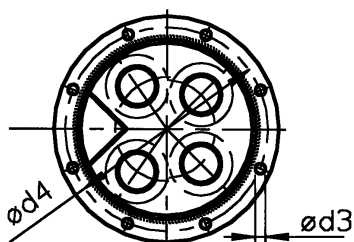
RF	b1	b2	b3	b5	b6	d1	d3	d4	d5	d6 <sup>1)</sup>	d7	h1	h2	h3	h4	h5	h6	t1	t2	t3	t4	Weight incl. element [kg]	Volume of pressure chamber [l]
330	150	126	85	77.8	42.9	135	G2 SAE DN 50 (2")	G2	170	M8	M12	139	130	63	13	12	180	27	23	-	27	4.1	2.0
660	195	210	110	106.4	61.9	180	SAE DN 80 (3")	G3 SAE DN 80 (3")	220	M12	M16	246	203	83	13	8	320	-	28	18	28	31.0	6.8
950	250	244	135	120.7	69.9	208	SAE DN 90 (3½")	SAE DN 90 (3½")	290	M16	M16	252.5	225	93	13	8	385	-	20	20	-	44.5	10.3
1300	250	244	145	130.2	77.8	208	SAE DN 100 (4")	SAE DN 100 (4")	290	M16	M16	330.5	269	121	13	8	485	-	20	20	-	52.5	13.5

Filter connection for SAE flanges to SAE-J 518c / 3000 PSI / <sup>1)</sup> mounting hole for screw

RF 2500 - 15000



**A-A**



dimension h4 on request!

RF	Flange connection	h1	h2	h3	h5	h6	b1	b2	d1	d2	d3	d4	d5	No. of cover plate screws	Weight including element [kg]	Volume of pressure chamber [l]
2500	DIN DN 100	732	578	590	496	84	395	240	273	360	18	320	G2	8	55.3	26.0
	DIN DN 125		505												58.3	29.0
4000	DIN DN 125	738	501	596	496	84	355	282	356	450	18	410	G2	12	97.3	44.0
	DIN DN 150		540												101.3	48.0
5200	DIN DN 125	812	576	670	571	84	382	308	406	510	23	460	G3	8	119.1	64.0
	DIN DN 150		615												126.1	68.0
6500	DIN DN 150	817	615	680	571	84	470	358	508	620	26	572	G3	8	175.1	98.0
	DIN DN 200		720												186.1	108.0
7800	DIN DN 200	817	720	680	571	84	535	358	508	620	26	572	G3	8	187.1	108.0
	DIN DN 250		800												202.1	126.0
15000	DIN DN 250	817	800	709	571	84	712	460	711	840	26	780	G3	12	329.1	224.0
	DIN DN 300		866												382.1	247.0

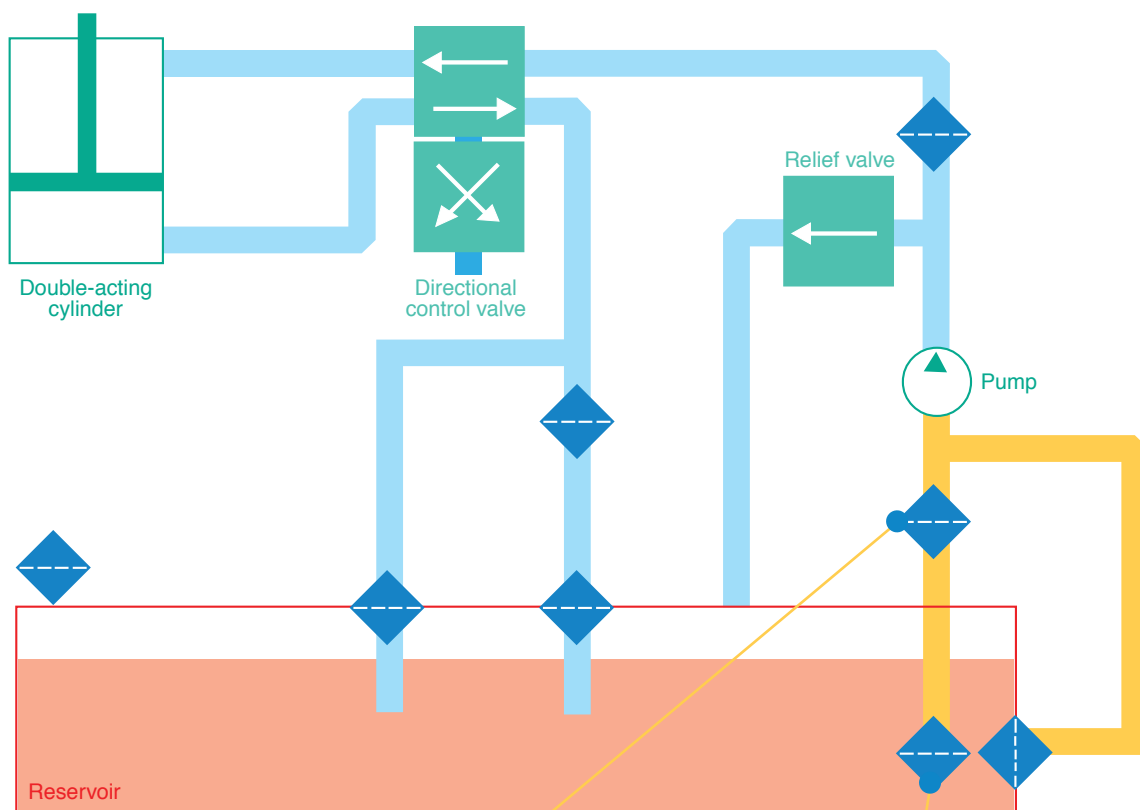
**NOTE:** The information in this brochure relates to the operating conditions and applications described. For applications or operating conditions not described, please contact the relevant technical department. Subject to technical modifications.

# 1.1.6

# Sugefilter

## Produktoversikt

### Sugefilter



**Linje sugefilter**



**Tank sugefilter**



### Sugefilter element

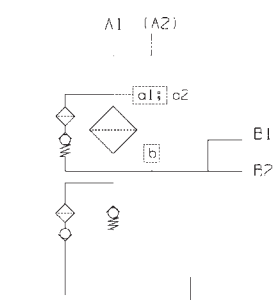
- Monteres for å beskytte pumpen på sugerøret
- Normalt grov filtrering
- Kan fås med bypass ventil
- Kan også rørmonteres eller tankmonteres.

# SRK-COMBO

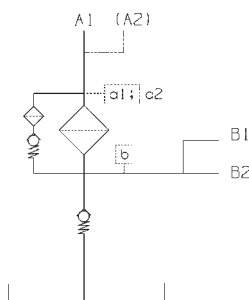
## Return & Suction In Tank Filters

### Combo 200 Series

Predisposition position options (No indicator fitted)	With Emergency Suction		Without Emergency Suction	
	Without optional inlet port G1	With optional inlet port G1	Without optional inlet port G1	With optional inlet port G1
None predisposition	<b>K041535</b>	<b>K041596</b>	<b>K041528</b>	<b>K041597</b>
RETURN LINE PREDISPOSITION				
a1	<b>K041598</b>	<b>K041599</b>	<b>K041600</b>	<b>K041601</b>
a2	<b>K041602</b>	<b>K041603</b>	<b>K041604</b>	<b>K041605</b>
SUCTION LINE PREDISPOSITION				
b	<b>K041606</b>	<b>K041607</b>	<b>K041608</b>	<b>K041609</b>
				
Main element	P764198		P764198	
Suction element	P764183		Not present	



With emergency suction



Without emergency suction

New partnumbers according to:

- With or without emergency suction
- Indicator positions
- Optional inlet port

# Combo 200 Series

## Big Combo

### with or without Emergency Suction

#### Technical Data

---

- Two filter versions with and without emergency suction from the tank.
- By-pass flow always filtered.
- By-pass flow always pressurized.
- Operating Pressure at 1000 kPa (10bar).
- Flow Rate: return 200 l/min.
- Emergency suction flow rate till 70 lpm from the tank.
- Back Pressure valve setting 50kPa (0,5 bar).
- By-pass valve setting 250 kPa (2,5 bar).
- Operating Temperature -20 - +100 °C.
- Compatibility with hydraulic fluids per ISO 2943.
- Interchangeable with various return and suction filters.
- Flow direction through the element from inside to outside.

#### Filter Elements

---

##### Main Element

- Synthetic Fiber
- Efficiency Per ISO 16889:  $\beta_{11}(c) > 200$  ;  $\beta_{13}(c) > 1000$
- Dust capacity per ISO 16889 at final Delta P 350 kPa typical value 70g
- By pass strainer integrated into the main element 125 micron wire mesh
- Unique interface with filter assembly

##### Suction Element

(only on version with emergency suction)

- 125 micron wire mesh

#### Service Indicator

---

Visual and electrical indicator available on request





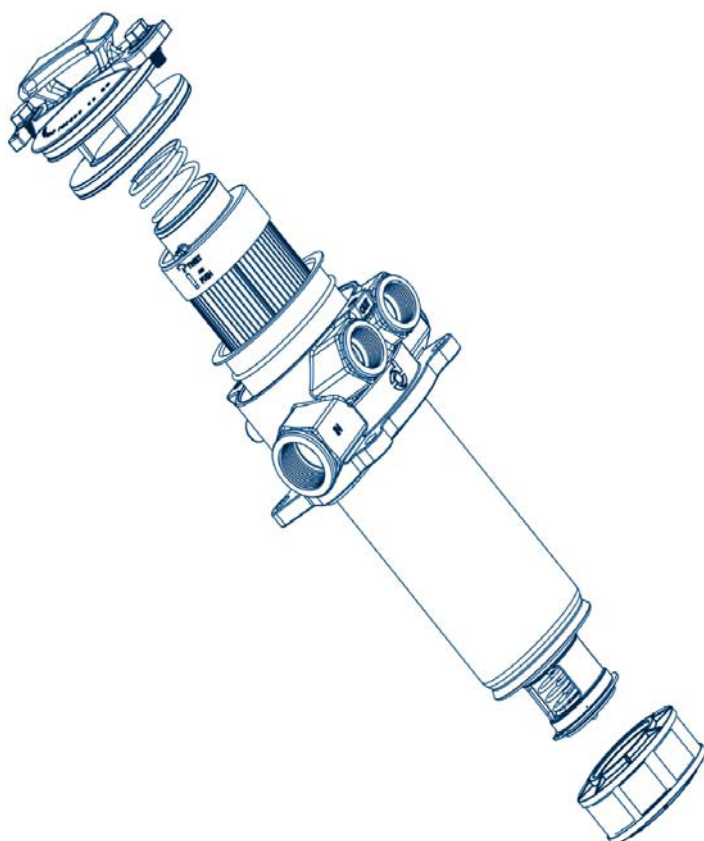
# Combo 200 Series

## Big Combo

### with or without Emergency Suction

#### Model

---



The two versions with and without emergency suction have the same body but different housings. Thus any retrofit from one version to the other is not possible.

#### Note

---

With Emergency Suction:

Note: Minimum oil level in the tank must be sufficient to cover completely the emergency suction cartridge.

Without Emergency Suction:

Note: Minimum oil level in the tank must be almost 50 mm above the housing end.

## **PXX-F10A**

### **In tank threaded suction strainers**



# PXX-FIOA

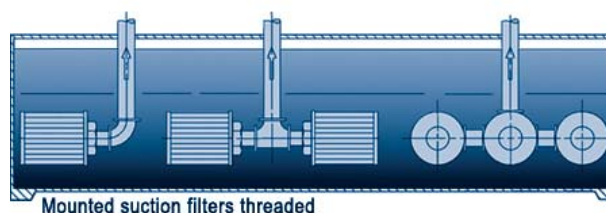
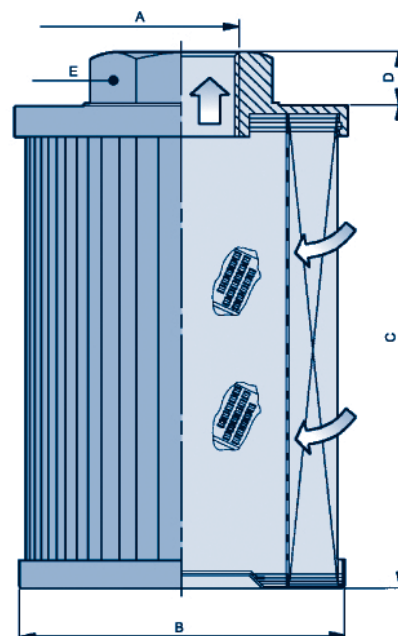
## In tank threaded suction strainers

### Technical Data

- Operating temperature -20 +100°C.
- Compatibility with hydraulic fluids per ISO 2943.
- Flow rate and pressure drop per ISO 3968 with oil kinematic viscosity 30 cSt at 40°C and density 0,875 kg/dm³.
- Ports threaded per ISO 228/1.

### Filter Elements

- Wire mesh 60-90 micron.
- Cellulose media 30 micron.
- Collapse resistance 500 kPa (5 bar) per ISO 2941.



	/9		/6			/3	
	WIRE MESH MEDIA					CELLULOSE MEDIA	
						$\beta_{36(c)}=1000$	
FLOW l/min	TYPE		TYPE		FLOW l/min	TYPE	
10	P171861 FIOA 20		P171863 FIOA 20/6		5	P171862 FIOA 20/3	
17	P171865 FIOA 35		P171867 FIOA 35/6		9	P171866 FIOA 35/3	
25	P171869 FIOA 50		P171871 FIOA 50/6		13	P171870 FIOA 50/3	
43	P171873 FIOA 85		P171875 FIOA 85/6		20	P171874 FIOA 85/3	
45	P171877 FIOA 90		P171879 FIOA 90/6		25	P171878 FIOA 90/3	
65	P171885 FIOA 130		P171887 FIOA 130/6		35	P171886 FIOA 130/3	
80	P763478 FIOA 160		P764370 FIOA 160/6		40	P764371 FIOA 160/3	
85	P171889 FIOA 175		P171891 FIOA 175/6		45	P171890 FIOA 175/3	
90	P172452 FIOA 180		P172454 FIOA 180/6		50	P172453 FIOA 180/3	
110	P760151 FIOA 220		P760173 FIOA 220/6		55	P760175 FIOA 220/3	
116	P171893 FIOA 230		P171895 FIOA 230/6		60	P171894 FIOA 230/3	
186	P171897 FIOA 360		P171899 FIOA 360/6		90	P171898 FIOA 360/3	
250	P171901 FIOA 500		P171903 FIOA 500/6		120	P171902 FIOA 500/3	
300	P171905 FIOA 600		P171907 FIOA 600/6		150	P171906 FIOA 600/3	
400	P171909 FIOA 800		P171911 FIOA 800/6		200	P171910 FIOA 800/3	

DIMENSIONS ELEMENT (mm)						
A	B	C	D	S	Kg.	
G 3/8	52	68	9	22	0,10	
G 1/2	69	76	12	27	0,16	
G 3/4	75	83	12	36	0,20	
G 1	95	83	14	46	0,32	
G 1	75	131	10	46	0,50	
G 1 1/4	95	172	12	60	0,68	
G 1 1/2	86	130	12	60	0,65	
G 1 1/2	140	98	15	60	0,70	
G 1 1/2	95	205	12	60	0,75	
G 2	101	205	14	80	0,80	
G 2	140	138	15	80	1,00	
G 2	140	205	15	80	1,20	
G 2	140	301	15	80	1,60	
G 2 1/2	140	301	16	106	1,60	
G 3	140	301	16	106	1,60	

# PXX-FIOA

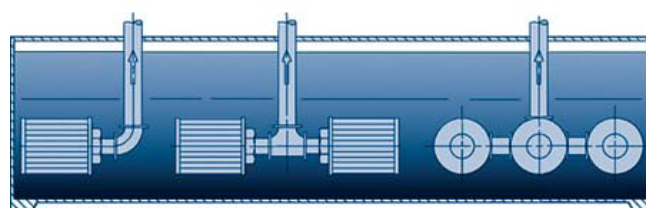
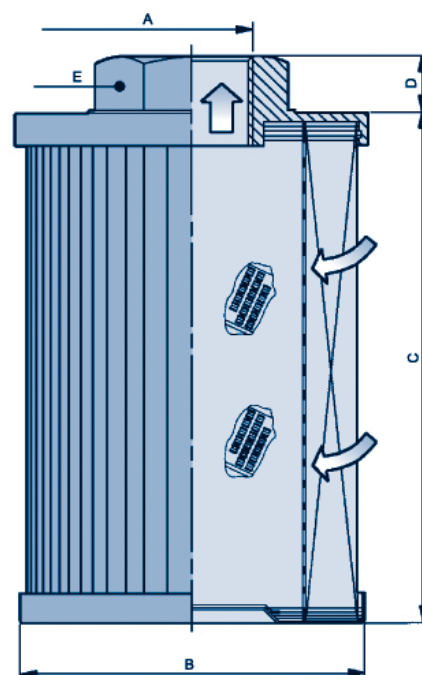
## In tank threaded suction strainers

### Technical Data

- Operating temperature -20 +100°C.
- Compatibility with hydraulic fluids per ISO 2943.
- Flow rate and pressure drop per ISO 3968 with c kinematic viscosity 30 cSt at 40°C and density 0,875 kg/dm³.
- Ports threaded per ISO 228/1.

### Filter Elements

- Wire mesh 60-90 micron.
- Cellulose media 30 micron.
- Collapse resistance 500 kPa (5 bar) per ISO 2941.



	/9	/6		/3
	WIRE MESH MEDIA			CELLULOSE MEDIA
				$\beta_{36(c)}=1000$
FLOW l/min	TYPE	TYPE	FLOW l/min	TYPE
10	P171861 FIOA 20	P171863 FIOA 20/6	5	P171862 FIOA 20/3
17	P171865 FIOA 35	P171867 FIOA 35/6	9	P171866 FIOA 35/3
25	P171869 FIOA 50	P171871 FIOA 50/6	13	P171870 FIOA 50/3
43	P171873 FIOA 85	P171875 FIOA 85/6	20	P171874 FIOA 85/3
45	P171877 FIOA 90	P171879 FIOA 90/6	25	P171878 FIOA 90/3
65	P171885 FIOA 130	P171887 FIOA 130/6	35	P171886 FIOA 130/3
80	P763478 FIOA 160	P764370 FIOA 160/6	40	P764371 FIOA 160/3
85	P171889 FIOA 175	P171891 FIOA 175/6	45	P171890 FIOA 175/3
90	P172452 FIOA 180	P172454 FIOA 180/6	50	P172453 FIOA 180/3
110	P760151 FIOA 220	P760173 FIOA 220/6	55	P760175 FIOA 220/3
116	P171893 FIOA 230	P171895 FIOA 230/6	60	P171894 FIOA 230/3
186	P171897 FIOA 360	P171899 FIOA 360/6	90	P171898 FIOA 360/3
250	P171901 FIOA 500	P171903 FIOA 500/6	120	P171902 FIOA 500/3
300	P171905 FIOA 600	P171907 FIOA 600/6	150	P171906 FIOA 600/3
400	P171909 FIOA 800	P171911 FIOA 800/6	200	P171910 FIOA 800/3

DIMENSIONS ELEMENT (mm)						
A	B	C	D	S	Kg.	
G 3/8	52	68	9	22	0,10	
G 1/2	69	76	12	27	0,16	
G 3/4	75	83	12	36	0,20	
G 1	95	83	14	46	0,32	
G 1	75	131	10	46	0,50	
G 1 1/4	95	172	12	60	0,68	
G 1 1/2	86	130	12	60	0,65	
G 1 1/2	140	98	15	60	0,70	
G 1 1/2	95	205	12	60	0,75	
G 2	101	205	14	80	0,80	
G 2	140	138	15	80	1,00	
G 2	140	205	15	80	1,20	
G 2	140	301	15	80	1,60	
G 2 1/2	140	301	16	106	1,60	
G 3	140	301	16	106	1,60	



## FLK-FLA

# In-line suction filters with take apart elements

### Technical Data

- Operating pressure at 3000 kPa (30 bar).
- Static pressure testing at 4500 kPa (45 bar).
- By-pass valve setting 30 kPa (0,3 bar) per ISO 3968.
- Operating temperature -20 +100°C.
- Compatibility with hydraulic fluids per ISO 2943.
- Flow rate and pressure drop per ISO 3968 with oil kinematic viscosity 30 cSt at 40°C and density 0,875 kg/dm<sup>3</sup>.
- Ports threaded per ISO 228/1 or flanged per SAE J 518 - 3000 PSI.



### Filter Elements

- Wire mesh 60-90 micron.
- Synteq® synthetic media with 10-25 micron.
- Cellulose media 10-30 micron.
- Collapse resistance 1000 kPa (10 bar) per ISO 2941.
- Replacement element includes spring and O-ring seal.

## FLK-FLA

# In-line suction filters with take apart elements

## Specifications

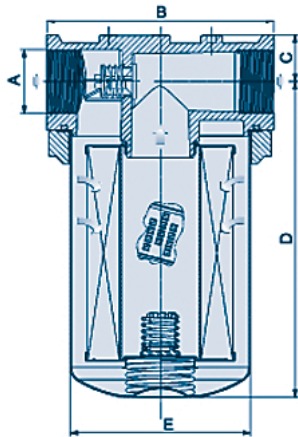
/9					/6					/3					/1					/03					/02				
WIRE MESH MEDIA					CELLULOSE MEDIA					CELLULOSE MEDIA					SYNTHETIC MEDIA					SYNTHETIC MEDIA									
					$\beta_{50(c)}=1000$					$\beta_{38(c)}=1000$					$\beta_{23(c)}=1000$					$\beta_{11(c)}=1000$									
FLOW l/min	TYPE	ELEMENT	TYPE	ELEMENT	FLOW l/min	TYPE	ELEMENT	TYPE	ELEMENT	FLOW l/min	ELEMENT	TYPE	ELEMENT	FLOW l/min	ELEMENT	TYPE	ELEMENT												
20	K030253 FLA 50	P171518 CR 50	K030258 FLA 50/6	P171523 CR 50/6	15	K030257 FLA 50/3	P171522 CR 50/3	K030256 FLA 50/1	P171521 CR 50/1	10	P171520 CR 50/3	K030254 FLA 50/02	P171519 CR 50/02																
	K030361 FLA 50 P		K030364 FLA 50/6 P			K030363 FLA 50/3 P		K030362 FLA 50/1 P			K030355 FLA 50/02 P																		
	K030265 FLA 100		K030270 FLA 100/6			K030269 FLA 100/3		K030268 FLA 100/1			K030266 FLA 100/02																		
	K030356 FLA 100 P		K030360 FLA 100/6 P			K030359 FLA 100/3 P		K030358 FLA 100/1 P			K030357 FLA 100/02 P																		
40	K040590 FLA 150	P171530 CR 100	K040595 FLA 150/6	P171535 CR 100/6	30	K040594 FLA 150/3	P171534 CR 100/3	K040593 FLA 150/1	P171533 CR 100/1	25	P171532 CR 100/3	K040591 FLA 150/02	P171531 CR 100/02																
	K040932 FLA 150 P		K040936 FLA 150/6 P			K040935 FLA 150/3 P		K040934 FLA 150/1 P			K040933 FLA 150/02 P																		
65	K040602 FLA 180	P171584 CR 125	K040607 FLA 180/6	P171589 CR 125/6	55	K040606 FLA 180/3	P171588 CR 125/3	K040605 FLA 180/1	P171587 CR 125/1	45	P171586 CR 125/3	K040603 FLA 180/02	P171585 CR 125/02																
	K040937 FLA 180 P		K040941 FLA 180/6 P			K040939 FLA 180/1 P		K040938 FLA 180/02 P																					
90	K070153 FLA 250	P171536 CR 180	K070158 FLA 250/6	P171541 CR 180/6	60	K070157 FLA 250/3	P171540 CR 180/3	K070156 FLA 250/1	P171539 CR 180/1	55	P171538 CR 180/3	K070154 FLA 250/02	P171537 CR 180/02																
	K070396 FLA 250 P		K070399 FLA 250/6 P			K070397 FLA 250/1 P		K070396 FLA 250/02 P																					
125	K070165 FLA 330	P171590 CR 220	K070170 FLA 330/6	P171595 CR 220/6	80	K070169 FLA 330/3	P171594 CR 220/3	K070168 FLA 330/1	P171593 CR 220/1	70	P171592 CR 220/3	K070166 FLA 330/02	P171591 CR 220/02																
	K070400 FLA 330 P		K070404 FLA 330/6 P			K070403 FLA 330/3 P		K070402 FLA 330/1 P			K070401 FLA 330/02 P																		
170	K070177 FLA 500	P171560 CR 330	K070182 FLA 500/6	P171565 CR 330/6	110	K070181 FLA 500/3	P171564 CR 330/3	K070180 FLA 500/1	P171563 CR 330/1	90	P171562 CR 330/3	K070178 FLA 500/02	P171561 CR 330/02																
	K070405 FLA 500 P		K070410 FLA 500/6 P			K070409 FLA 500/3 P		K070408 FLA 500/1 P			K070406 FLA 500/02 P																		
250	K070189 FLAF 250	P171566 CR 500	K070194 FLAF 250/6	P171571 CR 500/6	200	K070193 FLAF 250/3	P171570 CR 500/3	K070192 FLAF 250/1	P171569 CR 500/1	170	P171568 CR 500/3	K070190 FLAF 250/02	P171567 CR 500/02																
	K070503 FLAF 250 P		K070502 FLAF 250/6 P			K070501 FLAF 250/3 P		K070500 FLAF 250/1 P			K070498 FLAF 250/02 P																		
125	K070201 FLAF 330	P171590 CR 220	K070206 FLAF 330/6	P171595 CR 220/6	80	K070205 FLAF 330/3	P171594 CR 220/3	K070204 FLAF 330/1	P171593 CR 220/1	70	P171592 CR 220/3	K070202 FLAF 330/02	P171591 CR 220/02																
	K070510 FLAF 330 P		K070509 FLAF 330/6 P			K070508 FLAF 330/3 P		K070507 FLAF 330/1 P			K070506 FLAF 330/02 P																		
170	K070213 FLAF 500	P171560 CR 330	K070218 FLAF 500/6	P171565 CR 330/6	110	K070217 FLAF 500/3	P171564 CR 330/3	K070216 FLAF 500/1	P171563 CR 330/1	90	P171562 CR 330/3	K070214 FLAF 500/02	P171561 CR 330/02																
	K070515 FLAF 500 P		K070514 FLAF 500/6 P			K070513 FLAF 500/3 P		K070512 FLAF 500/1 P			K070511 FLAF 500/02 P																		
250	K070225 FLAF 800	P171566 CR 500	K070230 FLAF 800/6	P171571 CR 500/6	200	K070229 FLAF 800/3	P171570 CR 500/3	K070228 FLAF 800/1	P171569 CR 500/1	170	P171568 CR 500/3	K070226 FLAF 800/02	P171567 CR 500/02																
	K070412 FLAF 800 P		K070416 FLAF 800/6 P			K070415 FLAF 800/3 P		K070414 FLAF 800/1 P			K070413 FLAF 800/02 P																		
300	K040614 FLA 200	P171578 CR 800	K040619 FLA 200/6	P171583 CR 800/6	250	K040618 FLA 200/3	P171582 CR 800/3	K040617 FLA 200/1	P171581 CR 800/1	200	P171580 CR 800/3	K040615 FLA 200/02	P171579 CR 800/02																
	K040942 FLA 200 P		K040945 FLA 200/6 P			K040944 FLA 200/3 P		K040943 FLA 200/1 P			K040941 FLA 200/02 P																		
100	K040614 FLA 200	P171596 CL 200	K040619 FLA 200/6	P171601 CL 200/6	70	K040618 FLA 200/3	P171600 CL 200/3	K040617 FLA 200/1	P171599 CL 200/1	80	P171598 CL 200/3	K040615 FLA 200/02	P171597 CL 200/02																
	K040942 FLA 200 P		K040945 FLA 200/6 P			K040944 FLA 200/3 P		K040943 FLA 200/1 P			K040941 FLA 200/02 P																		



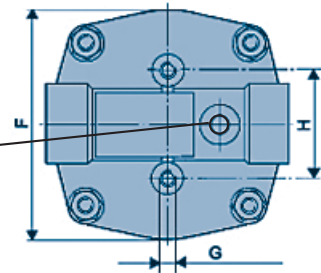
# FLK-FLA

## In-line suction filters with take apart elements

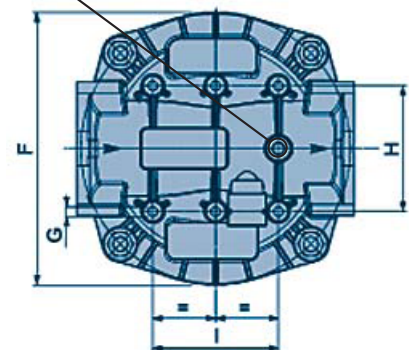
### Specifications



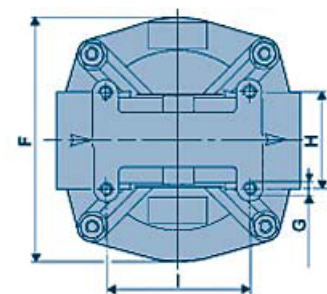
Plugged Predisposition



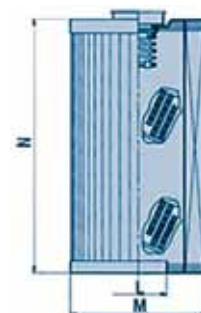
SIZE 20-40-65-90



SIZE 125-170-250-300



SIZE 100



DIMENSIONS ASSY (mm)										DIMENSIONS ELEMENT (mm)		
A	B	C	D	E	F	G	H	I	Kg.	L	M	N
G 1/2	120	21	139	90	116	M8	54	-	1,5	29	70	75
G 3/4	120	24	193	90	116	M8	54	-	1,8	29	70	128
G 1	140	31	250	110	135	M8	68	-	2,8	41	95	169
G 1 1/4	140	31	284	110	135	M8	68	-	3,0	41	95	203
G 1 1/2	212	44	224	170	208	M8	96	96	6,0	65	140	136
G 1 1/2	212	44	294	170	208	M8	96	96	6,2	65	140	203
G 2	212	44	294	170	208	M8	96	96	6,2	65	140	203
FLANGE SAE 1 1/2	212	44	224	170	208	M8	96	96	6,0	65	140	136
FLANGE SAE 1 1/2	212	44	294	170	208	M8	96	96	6,2	65	140	203
FLANGE SAE 2	212	44	294	170	208	M8	96	96	7,2	65	140	203
FLANGE SAE 2	212	44	505	170	208	M8	96	96	9,5	65	140	400
G 1 1/4	152	30	237	124	152	M8	60	90	2,9	46	112	180



# 1.1.7

# Pustefilter



## T.R.A.P.™ Breathers arrest moisture and free your budget.

### WATER MEANS TROUBLE

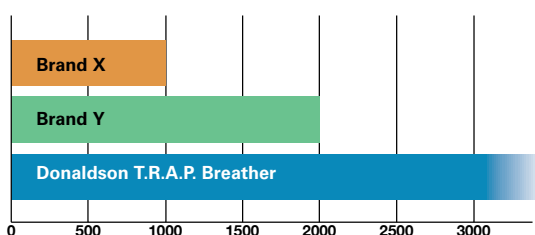
**NO** moisture slips by Donaldson's Thermally Reactive Advanced Protection (T.R.A.P.). In fact, it removes moisture at relative humidity levels as low as 15%! T.R.A.P. filtration technology reacts instantly to thermal conditions, blocking moisture completely.

And it has a way of sneaking into your hydraulic circuits. Unless you have a Donaldson T.R.A.P.™ Breather standing guard over your system.

T.R.A.P. Breathers from Donaldson are the **ONLY** breathers on the market that literally strip moisture vapor from intake air and exhale the moisture back to the atmosphere on the outflow cycle. The filter continuously regenerates its water holding capacity!

#### T.R.A.P. Breathers last longer. So will your budget.

As illustrated to the right, T.R.A.P. Breathers actually exhale the moisture back out, which means you won't need to change the breather due to water saturation ... unlike desiccant filters that require frequent change-out. **Like the name suggests, it TRAPS water before it gets in, yet doesn't restrict air flow, and lets your hydraulic reservoir BREATHE.**



The patented T.R.A.P. filtering material regenerates its water-holding capacity, leading to a much longer service life. In competitive testing, T.R.A.P. Breathers performed beyond 3,000 cycles, while silica gel breathers lost efficiency at less than 2,000 cycles.



*"The T.R.A.P. Breathers last longer. They're more durable."*

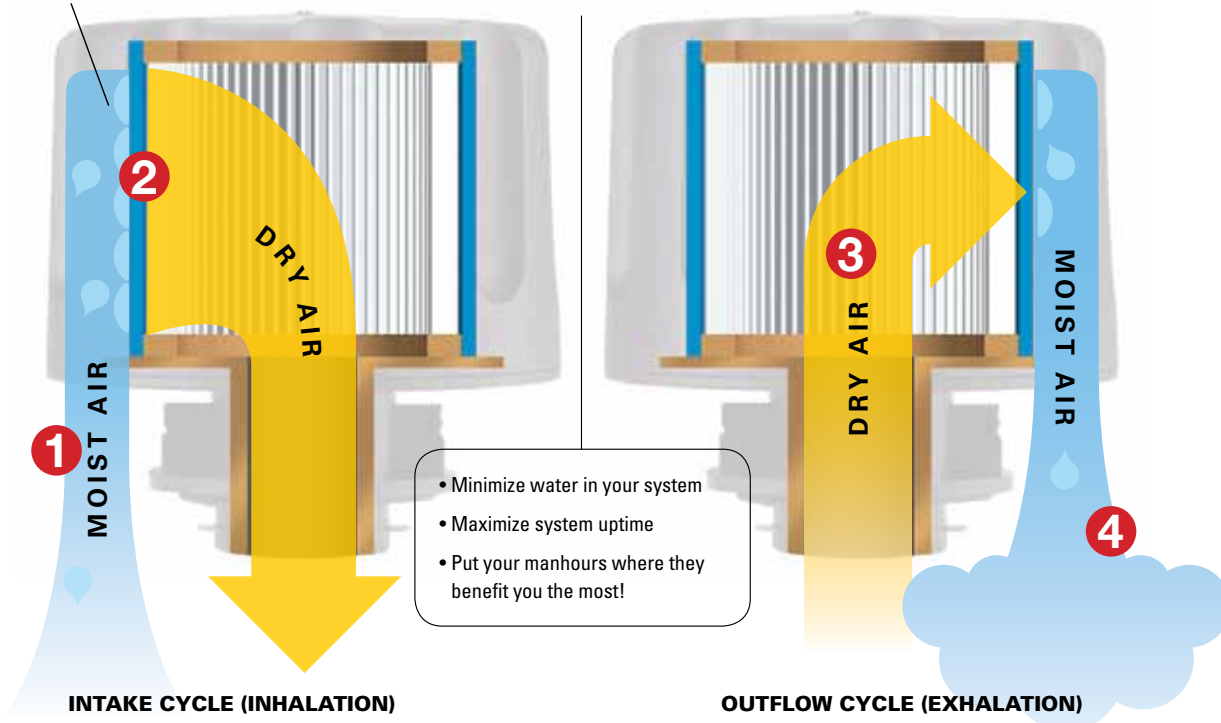
— Florida

Compare	T.R.A.P. Technology	Desiccant Filters
Service life	Extended Life (exhales moisture and refreshes its holding capacity on each cycle).	Shorter life (due to saturation of filtering material), leading to frequent replacement.
Effectiveness	Reacts instantly to conditions in the hydraulic circuit, creating a moisture barrier without impeding airflow.	Requires extended exposure to the air stream before absorption begins. Restricts airflow.
Maintenance costs	Reduced man-hours.	Increased man-hours.
Technology	Thermally reactive barrier that removes moisture at relative humidity levels as low as 15%.	Absorbent filtering material that loses holding capacity with each cycle.
Filtration	Superior moisture blocking and particulate filtration down to 3 microns at 97%.	Less effective moisture blocking and particulate filtration.
Other Advantages	Will not freeze in winter.	Subject to freezing in winter conditions.

**Compare T.R.A.P. Breathers and you'll be impressed. Try T.R.A.P. Breathers and you'll be convinced!**

# HOW IT WORKS

## TRAPPED MOISTURE



*"The T.R.A.P. Breathers have a longer service life. Desiccant filters seem to plug up quickly."*

– Illinois

*"We test our oil every month. With the old desiccant filters, we always had free-standing water in the sample. With the T.R.A.P. Breathers, it's nothing but pure oil."*

– Nebraska

**T.R.A.P. Breather...**  
**Moisture meets its match.**

**It's time to stop trouble from getting into your system!**



## Donaldson T.R.A.P. Breathers



Part Number	Construction	Connection	Airflow	Indicator	Oil Splash/ Mist Containment
P566151	Glass-filled ABS	1" NPT	45 CFM Max.	Optional Mechanical	No
P566156	Glass-filled ABS	Bayonet	45 CFM Max.	No	No
P564669	Glass-filled ABS	1" NPT	45 CFM Max.	Electronic	No
P565616	Glass-filled ABS	Bayonet	45 CFM Max.	Electronic	No
P565857	Epoxy Coated Steel	3/4" NPT	25 CFM Max.	Optional Mechanical	Yes
P565858	Epoxy Coated Steel	Bayonet	25 CFM Max.	No	Yes
P566037	Epoxy Coated Steel	3/4" BSP	25 CFM Max.	No	Yes
P566174	Glass-filled ABS	9/16"-18 UNF	3 CFM	No	Yes
P567390	Glass-filled ABS	3/8" NPT	3 CFM	No	Yes
P567392	Glass-filled ABS	1/4" NPT	3 CFM	No	Yes

**T.R.A.P. Breather...**  
**Moisture meets its match.**





## Desiccant Air Breather



### Characteristics

- Available in 4 sizes
- Refillable with drying agent
- Available with adapter and filter minder (contamination indicator)
- Replacement spin-on air filter separately available
- Seal and plastic plug to prevent moisture entering before installation

### Advantages

Protects expensive equipment, increases operation efficiency and reduces maintenance costs by:

- Eliminating corrosion
- Extending life of hydraulic, lubrication and process fluids
- Minimizing component wear, downtime and repairs
- Eliminating oil oxidation, additive depletion and freezing
- Extending oil filter life

## Unique filtration process

Moisture and particulate accumulation are major factors of oil contamination in industrial equipment. Neglected, these detriments restrict equipment efficiency, causing machine downtime and significant expense in replacement oil, parts and repair labour.

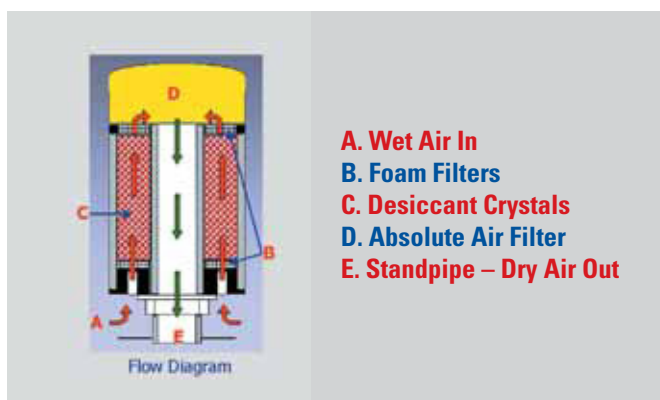
*INTERNORMEN* BFD series breathers incorporate a proven, field tested design. They prevent water and contaminants from entering fluid reservoirs as differential pressures occur through thermal expansion and contraction of the fluid, or during the filling or emptying process.

Manufactured with a hygroscopic agent, compliant with revised european regulations (Council directive 88/379/EEC) *INTERNORMEN* BFD series breathers utilize the entire filter area, and have the capability of extracting water vapor from the air as it is drawn through the unit. Accompanying solid particles are then removed by a 3µm absolute glass filter, allowing only clean, dry air to enter the system.

## Applications

- Hydraulic systems – all types
- Bearing circulating systems
- Mobile earthmoving equipment
- Gearboxes
- Robotic hydraulic equipment
- Mobile tanksystems
- Diesel fuel storage tanks
- Transformer with oil cooling systems
- Vacuum- and welding chambers
- Agricultural equipment

## Principle of function



Technical Data	BFD-95	BFD-100	BFD-125	BFD-130
Data sheet No.: 6003				
Max. rate of air flow (m <sup>3</sup> /min)	0.5	0.5	1.25	1.25
Air filter micron rating (µm)	3	3	3	3
Weight (g)	1000	1320	2950	4300
Connection thread (BSP)	G □	G □	G 1 □	G 1 □
Silicagel filling weight (g)	225	450	750	1500
Max. hygroscopicity (g)	86,5	173	288	576

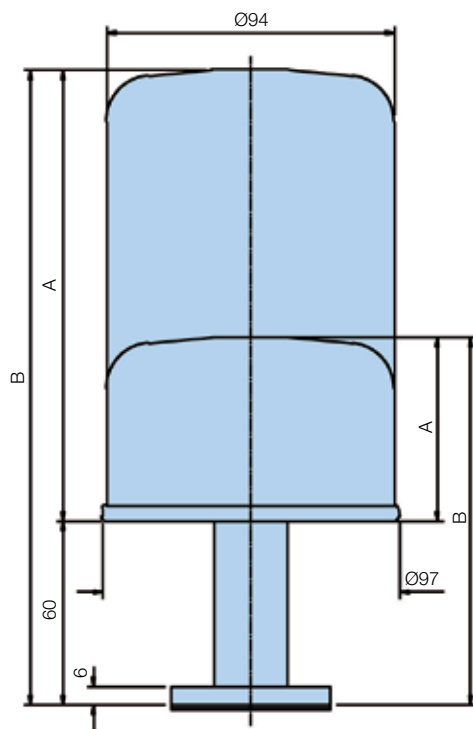
## Reservoir Equipment Spin-On Air Breathers



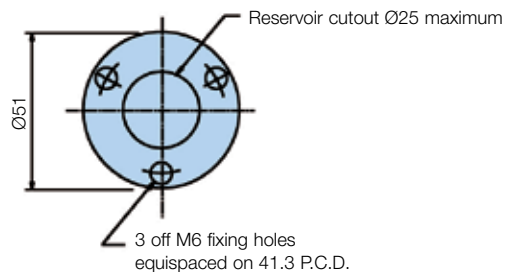
## Specification



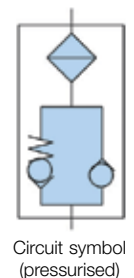
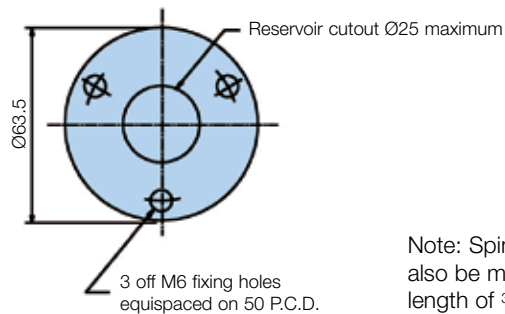
- High capacity air filters designed for the removal of airborne contamination in hydraulic systems to support environmental maintenance.
- Ideal for high flow systems and heavily contaminated environments.
- Disposable spin-on elements quickly and easily replaced.
- 5 micron quality filtration elements.
- 2 models available – 700 l/min and 1500 l/min.
- Available with a pressurised valve in the mounting adaptor.



Standard spin-on air breather stem



Pressurised spin-on air breather stem



Note: Spin-on air breather elements can also be mounted directly on to any suitable length of 3/4" BSP threaded pipe.

## Ordering Information

### 5μ Spin-on air breathers

Part number	Supersedes	Air flow	Valve crack pressure	A mm	B mm	Weight	Replacement element
<b>S.340056</b>	N/A	700 l/min	Unpressurised	60	120	0.6Kg	<b>4930</b>
<b>S.340052</b>	N/A	1500 l/min	Unpressurised	148	208	0.75Kg	<b>588410</b>
<b>S.340058</b>	*S.340058	700 l/min	0.35 Bar	60	120	0.69Kg	<b>4930</b>
<b>S.340059</b>	**S.340059	700 l/min	0.70 Bar	60	120	0.69Kg	<b>4930</b>
<b>S.340054</b>	*S.340054	1500 l/min	0.35 Bar	148	208	0.8Kg	<b>588410</b>
<b>S.340055</b>	**S.340055	1500 l/min	0.70 Bar	148	208	0.8Kg	<b>588410</b>

Note 1: Part numbers featured with bold highlighted codes will ensure a 'standard' product selection.

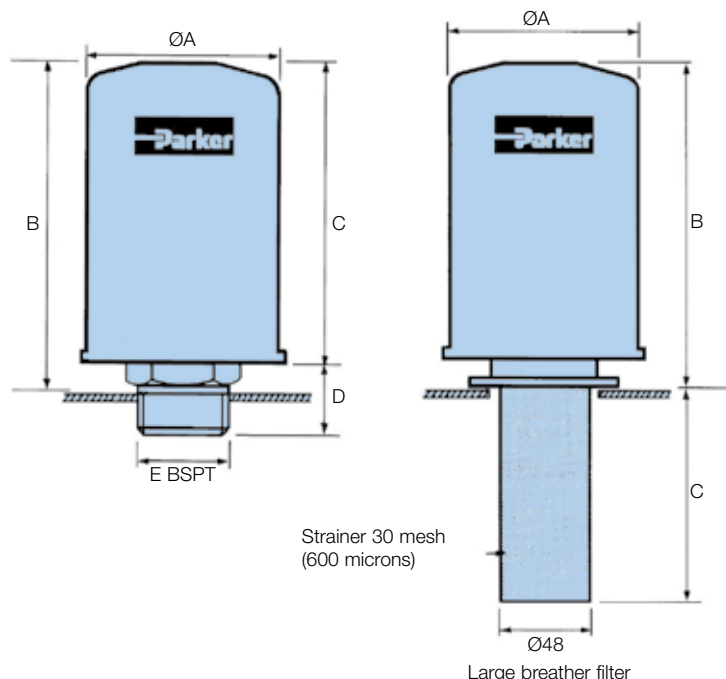
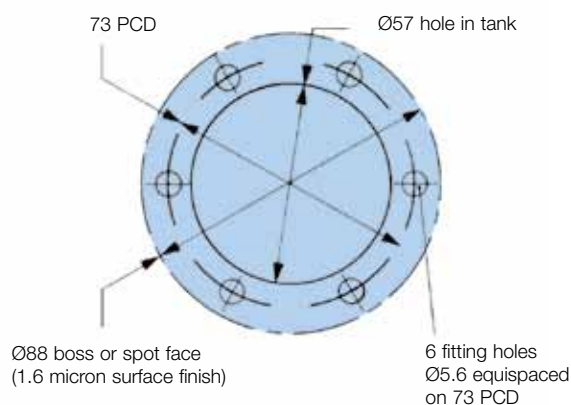
Note 2: Alternate displayed part number selection will require you to contact Parker Filtration for availability.

Note 3: Reservoir must be capable of withstanding pressurisation.



- High capacity air filters designed for the removal of airborne contamination in hydraulic systems to support environmental maintenance.
- Ideal for high flow systems and heavily contaminated environments.
- Disposable spin-on elements quickly and easily replaced.
- 3 micron quality filtration elements.
- Models available – 1700 l/min and 3000 l/min.

Mounting face for standard and large breather



## Specification

**Maximum operating temperature:**  
-20°C to +90°C.

**Construction materials:**  
Epoxy coated steel components to resist corrosion.  
resistant paint finish on large breathers.

**Fluid compatibility:**  
Suitable for use with mineral oils and water oil emulsions.

### Weights:

Large: H00834001 1.0 Kg  
H00834002 1.65 Kg  
H00834003 1.90 Kg

Each breather filter is supplied with mounting gaskets and self-tapping screws.

## Ordering Information

### Large breather dimensions

Part number	Supercedes	Air flow l/min	Dimensions (mm)				Ports
			A	B	C	D	
H00834004	H00834-004	1700	97	147	135	30	3/4
H00834005	H00834-005	3000	134	198	180	36	1 1/4

Note 1: Part numbers featured with bold highlighted codes will ensure a 'standard' product selection.

Note 2: Alternate displayed part number selection will require you to contact Parker Filtration for availability.

### Large breather filler dimensions

Part number	Supercedes	Air flow l/min	Dimensions (mm)			Replacement element complete with bayonet	Supercedes
			A	B	C		
H00834001	H00834-001	1700	97	165	114	H00834006	H00834-006
H00834002	H00834-002	3000	134	204	114	H00834007	H00834-007
H00834003	H00834-003	3000	134	204	203	H00834007	H00834-007





# 1.1.8 Sideløps-/ bypassfiltrering



# DIESELRENSEENHET

## GA-449-4300-06

### Mobilt diesel renseaggregat

Fjerner vann og partikler fra diesel og parafin. Filtrerer partikler ned til 2 micron. Kapasitet 36 liter per minutt. Leveres med luftdrevet pumpe som standard. Kan også leveres med elektrisk pumpe.

Filterelement til dieselaggregat		
2 micron	Filterinnsats	2020 SM (brun)
10 micron	Filterinnsats	2020 TM (blå)
30 micron	Filterinnsats	2020 PM (rød)



Part no F-449-4096-96 Diesel filter unit 36 l/min

Kapasitet:	33 l/min
Viskositet:	1 - 300 cSt
Innløps trykk:	1 Bar max
Innløp:	¾" NPT male
Utløp:	½" BSP female
Utløps trykk:	6 Bar max
Temperatur væske:	0 - 120°C
Strøm:	230V, 50Hz, 1 faset
Elektrisk Kapsling	IP55
Anbefalt slangestørrelse:	Minimum 1" oljebestandig

Dimensjon: Høyde: 1250 mm, Bredde: 520 mm, Lengde: 1250 mm

Kan leveres med suge- og trykkslanger i henhold til kundens spesifikasjoner



## Oljerense Unit med partikkelteller GA-449-4329-08

- Letthåndterlig transportabel pumpeenhet med servicevennlige "spin-on" filterelementer for rensing av oljer.
- Komplet med elektronisk partikkelteller og innebygget vannsensor.
- Filterelementene finnes i filtreringsgrader fra 1 micron til 25 micron, samt med vannabsorberende medie.
- Vogn laget i rustfritt materiale for lang levetid.
- Enheten har en driftsikker luftdrevet membranpumpe, tilkoblet luftregulator for enkel kontroll av pumpemengde.



Kapasitet:	Max 53 l/min ( avhenger av suge- / løfte høyde og trykkluft)
Viskositet:	5 - 350 mm <sup>2</sup> /s
Operasjons trykk:	8 Bar max
Innløps trykk:	- 0,5 bar opp til 6 Bar
Innløp:	1/2" NPT female
Utløp:	3/4" Slangestuss
Temperatur væske:	0 - 70°C
Kompressor luft:	7 Bar ( forbruk max 30 Nm <sup>3</sup> /t)
Tilkobling Luft	Hansen kupling (hann)
Anbefalt slangestørrelse:	Minimum 3/4" oljebestandig
Strøm (partikkelteller):	230V 50/60Hz, 1Ph. IP55



Dimensjon: Høyde: 1225 mm, Bredde: 520 mm, Dybde: 600 mm

Kan leveres med suge- og trykkslanger i henhold til kundens spesifikasjoner



## Offline Oljerense Unit GA-449-4333-08

- Letthåndterlig transportabel "offline" pumpeenhet med servicevennlige filterelementer for rensing av oljer.
- Filterelementene finnes i filtreringsgrad 2 mikron og med stor smussholdskapasitet.
- Vogn laget i rustfritt materiale for lang levetid.
- Enheten har en driftsikker luftdrevet membranpumpe, tilkoblet luftregulator for enkelt kontroll av pumpe mengde.
- Fleksibel løsning med mulighet for påbygging for økt kapasitet.
- Kan kombineres med vannabsorberende filter.



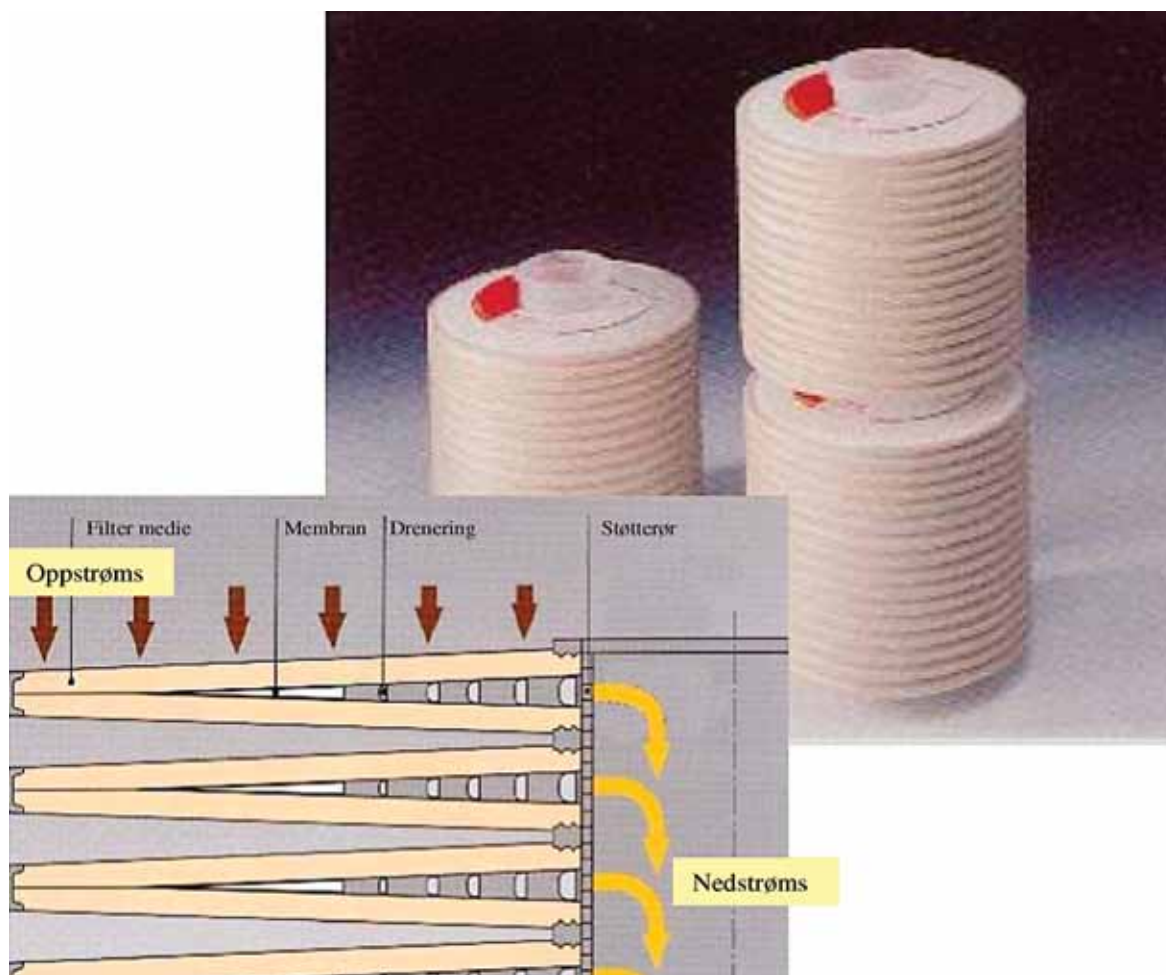
Kapasitet:	15 til 60 l/min ( avhenger antall element og pumpekapasitet, samt av suge- / løfte høyde og trykkluft)
Viskositet:	5 - 800 mm <sup>2</sup> /s
Operasjons trykk:	6 Bar max
Innløps trykk:	- 0,5 bar opp til 4 Bar
Innløp:	¾" Slangestuss
Utløp:	¾" Slangestuss
Temperatur væske:	0 - 70°C
Kompressor luft:	6 Bar ( forbruk max 30 Nm <sup>3</sup> /t)
Tilkobling Luft	Hansen kupling (hann)
Anbefalt slangestørrelse:	Minimum ¾" oljebestandig



Kan leveres med suge- og trykkslanger i henhold til kundens spesifikasjoner



## Filterelement P/N MEN002151 til Offline unit GA-449-4333-08



**Delenummer: MEN002151**

- **Nominal volumstrøm pr. element: 15 l/min**
- **Smussopptak pr. element: 500g ihht ISO test**
- **$\beta_{2 > 1000}$  @  $dp = 2$  bar**
- **Brennbar**

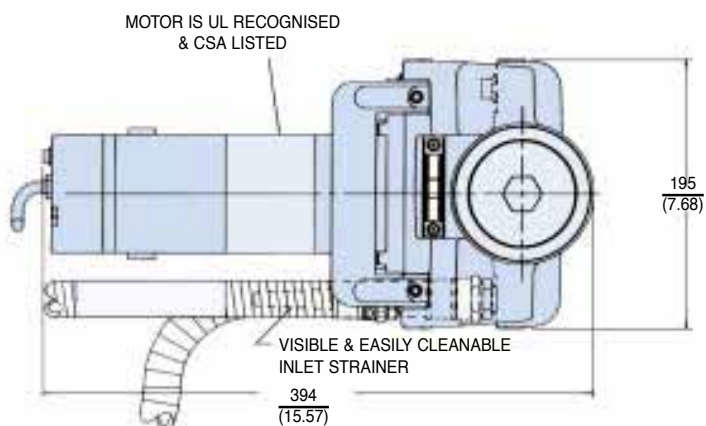
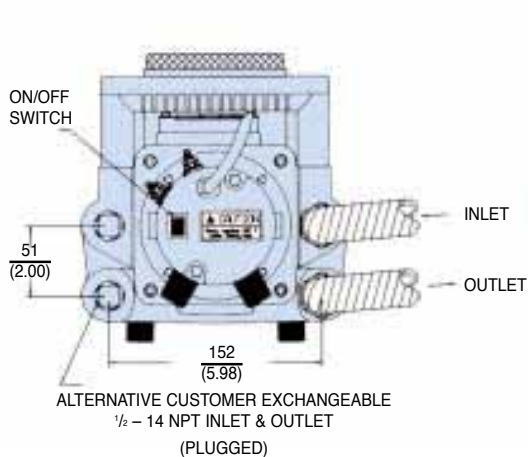
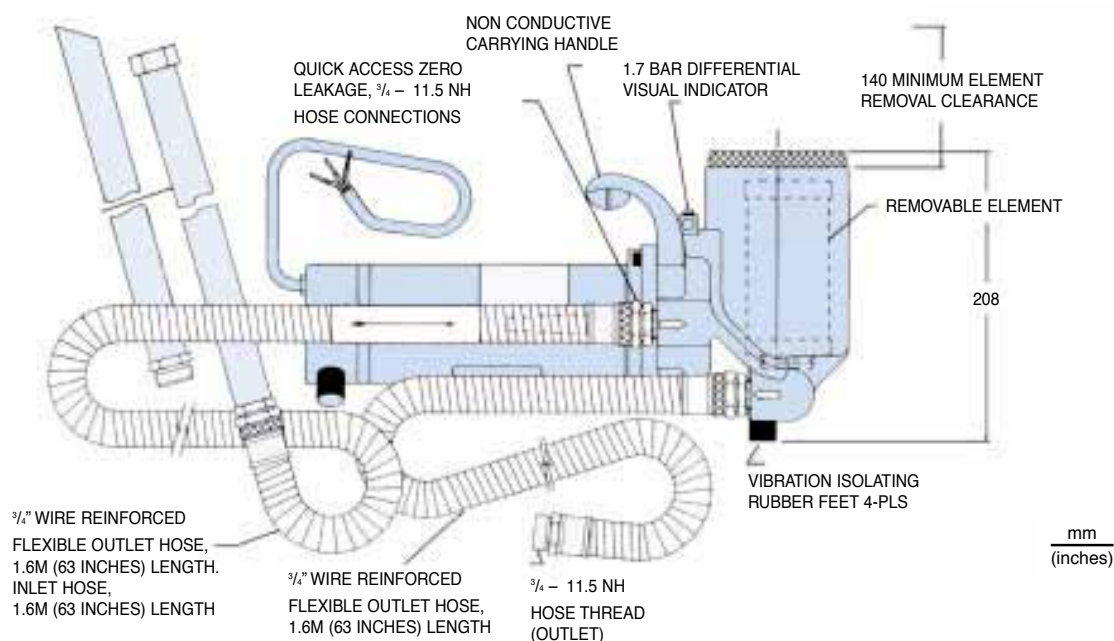
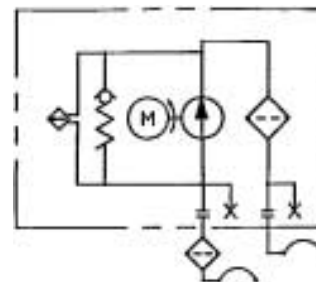
## Portable Filtration Systems

### Guardian<sup>®</sup>

Max 15 l/min - 2 bar



## FEATURES AND DIMENSIONS



## PART NUMBER MATRIX

Table 1

<b>F3</b>
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Table 2

<b>GT4E</b>
-------------

Table 3

<b>1</b>
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Table 4

<b>10Q</b>
------------

Table 5

<b>I</b>
----------

Table 6

<b>UK</b>
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Table 7

<b>–</b>
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Table 1

Seals	
Description	SYMBOL
Fluoroelastomer*	F3

Table 2

Model Number	
Description	SYMBOL
Guardian®	GT4E

Table 3

Motor Options	
Description	CODE
220/240 VAC, 50Hz	1
110 VAC, 50Hz	2

Table 5

Options	
None	1
Quick Disconnect Hose Connections	6

Table 4

Element Media Degree of Filtration							
Average filtration				Ratio (ISO 16889) / particle size µm(c)			
2	10	75	100	200	1000	CODE	DESCRIPTION
N/A	N/A	N/A	N/A	N/A	4.5	02Q	Microglass III
N/A	N/A	4.5	5	6	7	05Q	
N/A	6	8.5	9	10	12	10Q	
6	11	17	18	20	22	20Q	
N/A	N/A	25	N/A	N/A	N/A	25W	Woven Wire Mesh
N/A	N/A	40	N/A	N/A	N/A	40W	
Par◇Gel Water Removal Media						WR	

Table 6

Language Options			
Instruction leaflet language & appropriate moulded plug			
Description	CODE	Description	CODE
English	UK	Dutch	NL
German	D	Swedish	S
French	F	Italian	I
Danish	DK	Spanish	E
Finnish	SF		

Table 7

Design Number	
Assigned to the Guardian by the Factory	

## TROUBLESHOOTING GUIDE

Problem	Cause	Solution
<b>Does not start</b>	ON/OFF switch	Turn switch on, replace switch if defective
	No electrical power	Plug in Guardian, check for tripped circuit breakers, check for blown fuses
	Rectifier	Replace if defective
	Motor overheated 77°C (170°F)	Allow motor to cool, thermal overload will automatically reset
<b>Does not start or erratic motor noise</b>	Defective motor	Replace motor
	Worn motor brushes	Replace motor brushes
<b>Intermittent start/stop operation</b>	High viscosity fluids	High viscosity fluids can cause the motor to overheat and cycle intermittently
	Worn motor brushes	Replace motor brushes
	Defective motor	Replace motor
<b>Hot motor</b>	Pumping under heavy load	It is normal, under a heavy pumping load, for the motor to reach 71°C (160°F)
	Defective motor	Replace motor if the motor shell temperature reaches greater than 77°C (170°F)
<b>No flow or erratic pump noise</b>	Filter housing not filled with oil	Allow Guardian to run for a few seconds
	Suction leak	Check tightness of inlet fittings and hoses. Check gaskets are in place and are not damaged. Kink or restriction in the inlet hose
	Obstructed outlet	Clear outlet
	Element dirty	Replace or clean element
	Sheared pump key	Replace woodruff key
<b>No flow, erratic pump noise, motor overheats</b>	Defective Guardian	Replace unit
	Gears binding	Disassemble Guardian and thoroughly clean the gear set. Always use the inlet strainer provided to protect the unit. Replace defective gears.
	Plugged strainer	Clean or replace the inlet strainer as required. Clean relief valve. Check for damaged internal o-rings.
<b>Reduced oil flow</b>	High viscosity fluids	High viscosity fluids can cause reduced flow, which is normal
	Element dirty	Replace or clean element
	Relief valve stick or lodged open	Clean relief valve or replace if defective
	Partially obstructed inlet or outlet hose	Clear the hose obstruction
	Suction leak	Check tightness of inlet fittings and hose.
	Worn gears	Replace gear set
<b>Indicator moves to RED area</b>	Element dirty	Replace or clean element
	Oil extremely cold or viscous	Change element to coarser micron rating
	Obstructed outlet	Clear outlet obstruction
	Defective indicator	Replace indicator
<b>Indicator does not seem to move</b>	No element	Install element
	Defective indicator	Replace indicator
<b>Hoses discolour or are hard</b>	Fluid compatibility	Certain fluids, over time, will cause the hoses to discolour. This does not impair their performance. But, some fluids will cause the hoses to become brittle, requiring replacement.
<b>Oil formation under unit</b>	Defective shaft seal	Replace the motor shaft seal



## Filteragregat OF7



Portabel filtrerings unit for mineral oljer.

Elektrisk drevet med utskiftbart spin-on element og visuell trykk måler.

Leveres med 2,5 mtr suge / trykk slanger med metall lanse for fat.

<b>Part nr:</b>	<b>OF7S10P1M1...E</b>
Kapasitet:	15 l/min
Viskositet:	5 - 350 mm <sup>2</sup> /s
Operasjons trykk:	3,5 Bar max
Innløps trykk:	- 0,4 bar opp til 0,6 Bar
Innløp:	G3/4"
Utløp:	G1/2"
Temperatur væske:	0 - 80°C
Strøm:	1 x 230V 50 Hz ( 0,18 Kw motor, IP54 beskyttelse)
Strøm kabel:	1 faset støpsel, 2,8 m lengde
Vekt:	Ca 12,5 Kg
<b>Erstatnings element:</b>	
3 microns	p/n 0160MA03BN
5 microns	p/n 0160MA05BN
10 microns	p/n 0160MA10BN
20 microns	p/n 0160MA20BN
10 microns	p/n 0160MA10A (vannabsorberende)





## 1S200



- Removes Contaminants**
- Extends Oil Life**
- Reduces Component Wear**
- Removes all Water**
- Saves Machine Downtime**
- Reduces Disposal Costs**
- Simple to Install & Use**
- Low Maintenance Costs**
- Built in Sampling Points**



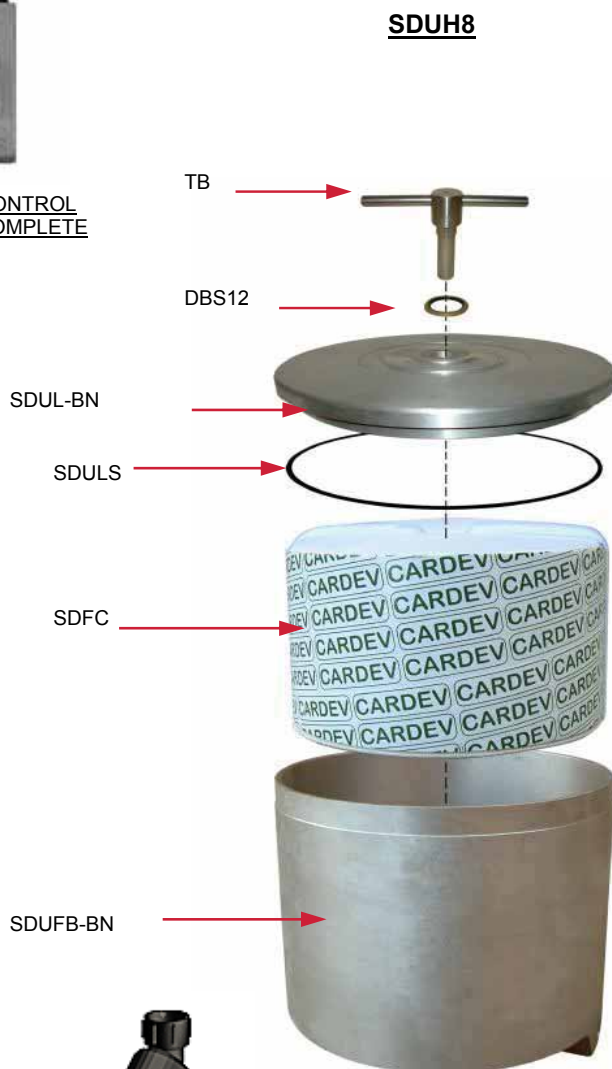
## 1S200 Spare Parts List



ELECTRICAL CONTROL  
ASSEMBLY—COMPLETE  
SW200



DUMP VALVE  
DV38 4.0BAR



SDUH8

TB

DBS12

SDUL-BN

SDULS

SDFC

SDUFB-BN

E GAUGE



QRC

QRP

QUICK RELEASE  
COUPLING SET  
QRS08



PRE-FILTER (10)  
PFY34NPT



FLOW METER  
(OPTION)  
FLOWK400



HOSE AND COUPLING SET (COMPLETE)  
OST1/2DRS

## Super Duty Filter Cartridge - SDFC

### Overview.

The Cardev By-pass filter has been used successfully for over 20 years, and with an ongoing development programme it will continue to meet the challenges of the future.

Three reasons for the fitment of a CARDEV filter are:

1. The components used in modern efficient machines can only achieve the correct performance levels and productivity rates if the operating systems are maintained, a major part of this relies on clean oil.

Reduced Downtime and Labour Costs Through Greater Machine Protection

2. Many lubricating and pressure fluids are formulated for higher stress and longer life. The quality characteristics often provided by additives, are used up in maintaining cleanliness from solid and liquid contaminants. In clean systems the additive reserve is maintained and the oil can be used for extended periods. The actual life extension is determined by oil analysis.

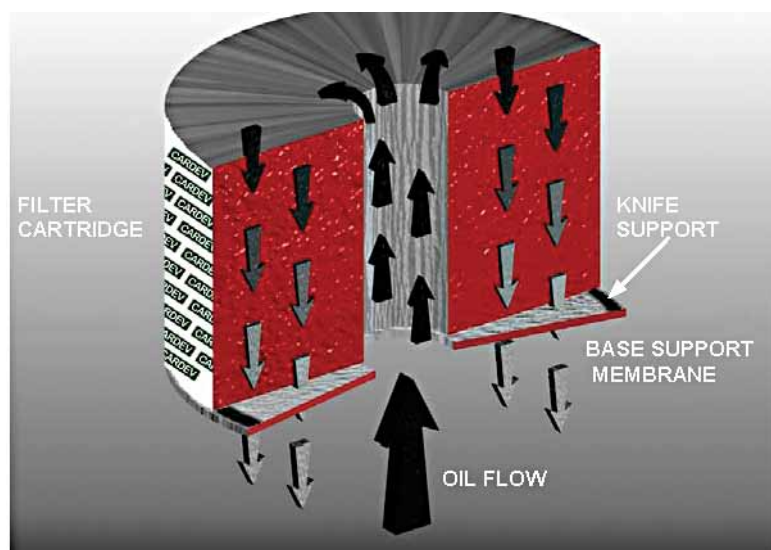
Extension of oil life within its operating specification

3. Estimates to meet the earth's current needs for mineral oil show there are reserves of less than 40 years. To extend the life of lubrication and pressure fluids is essential to protect these valuable world resources for future generations.

Reduced problems of used oil disposal protecting world resources.

The Cardev range of filtration equipment which provide both cost savings and extended oil life is essential for plant and machine care and maintenance. The individual unit fitting is very basic or a range of off-line rigs can be utilised. The filters are applicable to all hydraulic and gearbox systems as well as diesel motors.

### OIL FLOW THROUGH FILTER CARTRIDGE



The Cardev Super Duty Filter Cartridge is a depth cartridge made of long fibre cellulose with a strengthened cellulose knife support ring, and a full diameter polypropylene protection disc. The filter is covered with nylon and encased in an outer tube which forms an integral part of the cartridge, exterior straps are added for easy cartridge removal. The cartridge can be used on all pure oil based products such as hydraulic, engine and gearbox oils. The filtration is carried out at low pressures, off-line, cartridge pressures are controlled between 1 and 4 bar with a 6 bar maximum.

### Action of Cartridge

The filter cartridge acts by absorption and adsorption in a continuous recycling process. The long cellulose fibres attract the water formed either through the combustion process or by condensation and absorb it like a sponge, whilst at the same time rejecting the larger oil molecules which are forced to pass between the tight windings of the cartridge.

Thus the cartridge, by removing water inhibits the production of acids. As the oil passes through the cartridge, minute particles of carbon, wear metals and silicon are extracted from the oil by adhering to the many surfaces of the filter.

Through the continuous removal of water and contaminants the catalysing effect of the oil additives will be prevented enabling the oil life to be extended within the original specification laid down by the manufacturer. The additional extension of oil life will be dependent upon the operating conditions and maintenance programme applicable to the machine.

### Important note-additives

While the filter is extracting the water and contaminants it is continuously safeguarding the desirable elements (additives) compounded within the oil itself. These typically include, dependent on use, dispersants, VI improvers, lubricity agents, fungicidal, anti foaming and gelling additives. These additives are held in suspension and their levels can be critical if the oil is to maintain its beneficial effect. The Cardev filter will not remove these additives but enhances their life by the removal of contaminants which cause them to be activated.

### Disposal

Used cartridges should be disposed of in accordance with local regulations and are made from fully combustible materials.

### Cartridge Change Intervals

Taking into consideration the high dirt and water retention capacity, the filter change intervals can be individually determined according to the contamination and volume of the oil.

With a normal machine installation the recommended cartridge change frequency is 500 operating hours or 6 mths whichever comes first. Where the machine operates in adverse conditions this change frequency should be reduced to 250 operating hours. The maximum life of the cartridge is 6 months.

Where the cartridge is installed in a Cardev rig the change frequency will vary with the application and information is contained in the appropriate rig data sheet.

### Oil Throughput

Throughput levels are dependent on viscosity, temperature, degree of contamination and oil pressure. However, as a guide for an SDFC under the following conditions; ISO 46 grade hydraulic oil at 40 degrees centigrade with a 3 bar inlet pressure the flow rate is approximately 3 litres per minute.

### Operating Temperature

The cartridge will operate within the operating specification of engine, hydraulic and gearbox oils –10 to +95 centigrade.

Type	Cleanliness Class	Retention	Height mm	Diameter mm	Weight grm	Packing
	Dirt grm	Water ml				
SDFC	ISO 4406 11/9/6 NAS 4/5	UP TO 2500 112	780	195	1000 ±5%	Boxes of 6



# CJC™ Marine Filter Separator

## PTU2 27/27 PV-DE2H1PW

### Drawing No: 76 001 86-6

Item group: F2334  
Description: CJC™ Marine Filter Separator  
Drip pan mounted  
Filter insert: BLAT 27/27  
Sealings: Nitrile  
Pump: PV4-14-4  
Oilflow: 90l/h at 50Hz or 110l/h at 60Hz  
Electric control box  
Preheater w. thermo switch: 2x1,65kW  
(Alternative preheater capacities are available.)  
Pressure Switch: 2,3bar  
Aut. water discharge  
Pressure gauge with scale for filterchange  
Sampling point  
CJC™ Aut. air vent

Part No.: FA7600186-XY  
(see below tables for X and Y values)



Filterhousing size	27/27
No. of filterinserts	1 of 27/27
Filter dim. LxWxH [mm]	805x450x1010
Netweight filter [kg]	132
Package article No.	FJ10100
Package dim. LxWxH [mm]	865x545x1223
Package volume [m3]	0,55
Gross-weight** [kg]	156

\*\* Netweight filter + netweight package

X	A	B
Changes over valves for dual system filtration	NO	YES

Y	0	2	3	4	5	6
Phases	3x		2x			
Voltage [V]	230/400	275/480	230	230	120	110
Frequency [Hz]	50	60	60	50	60	50



# BLAT 27/27

## CJC™ Off-Line Filter Insert

### APPLICATION

The CJC™ BLAT 27/27 Filter Insert is manufactured specially for CJC™ Filter Separators employed in the filtration of mineral based oils of up to ISO VG 150 cSt and is used for, typically:

- hydraulic oils
- turbine lubricating oils
- gear oils
- diesel oils

### FILTRATION CAPABILITY

All CJC Filter Inserts have a filtration degree of 3 µm (micron) absolute (equiv. to 0.8 µm nominal) i.e. 98.7% of all solid particles >3 µm and approximately 50% of all particles >0.8 µm are retained in each pass.

The dirt holding capacity of a BLAT 27/27 Insert is 4.0 litres of evenly distributed solids. Unlike type B Filter Inserts the BLAT 27/27 will not permanently hold water as its free passage is integral to the water separation process.

### DIMENSIONS

The figures below are nominal:

Diameter: 27 cm

Height: 27 cm

### COMPONENTS

CJC™ Filter Inserts type BLAT consist of bonded discs. Main ingredient is cotton linters.

### IDENTIFICATION

To order the BLAT 27/27 Filter Insert, please use:  
Article No: PA5601325



The anticipated increase in differential pressure ( P ), measured in bar, across one new BLAT 27/27 Filter Insert is:

Flow rate, L/h	Differential Pressure ( P ), in bar				
	Viscosity, cSt				
	32	46	68	100	150
200	0.03	0.05	0.07	0.11	0.16
400	0.07	0.10	0.15	0.22	0.32
600	0.10	0.15	0.22	0.32	0.49
800	0.14	0.20	0.29	0.43	0.65

To calculate the differential pressure across several Filter Inserts, divide the differential pressure reading from the table with the number of Filter Inserts in a filter housing.



# CJC™ Fine Filter HDU 27/-P Drawing No: 76 021 01-6

Item group: F1311  
Description: CJC™ Fine Filter  
Filter insert: B 27/27  
Sealings: Nitrile  
Pump: P (see below)  
Pressure gauge with scale for filterchange  
Sampling point  
Air vent screw

Part No.: FA7602101-XY  
(see below tables for X and Y values)



X	1	2	3	4
Filterhousing size	27/27	27/54	27/81	27/108
No. of filterinserts	1 of 27/27	1 of 2x27/27	3 of 27/27*	2 of 2x27/27
Filter dim. LxWxH [mm]	515x390x530	515x390x780	515x390x845	515x390x575
Netweight filter [kg]	56	64	72	84
Package article No.	FJ10120	FJ10104	FJ10105	FJ10105
Package dim. LxWxH [mm]	560x460x707	615x515x939	615x515x1489	615x515x1489
Package volume [m3]	0,18	0,30	0,47	0,47
Gross-weight** [kg]	66	79	92	104

\* Or 1 of 27/27 + 1 of 2x27/27

\*\* Netweight filter + netweight package

Y	A	B	C	D	E	F	G	H	I	J	K	L
Pump type: P- PH-	6-DC	9-6	9-8	11-4	11-6	19-4	19-6	-	-	-	-	-
	-	-	-	-	-	-	-	9-6	11-4	11-6	19-4	19-6
Flow at 50Hz. [l/h]	-	200	160	350	250	600	400	200	350	250	600	400
Flow at 60Hz. [l/h]	-	240	190	420	300	720	480	240	420	300	720	480
Flow at DC [l/h]	220											





## B 27/27

# CJC™ Off-Line Filter Insert

### APPLICATION

The CJC™ 27/27 Filter Insert is manufactured specially for CJC™ Filter employed in the filtration of mineral and synthetic based

- motor lubricating oils
- hydraulic oils
- turbine lubricating oils
- gear oils
- honing oils
- rolling oils.

### FILTRATION CAPABILITY

All CJC Filter Inserts have a filtration degree of 3 µm (micron) absolute (equiv. to 0.8 µm nominal) i.e. 98.7% of all solid particles >3 µm and approximately 50% of all particles >0.8 µm are retained in each pass.

The dirt holding capacity of a 27/27 Insert is 4.0 litres of evenly distributed solids.

The water absorption potential is up to 50% (i.e. 2,000 mL H<sub>2</sub>O) of the total contaminant holding capacity

### DIMENSIONS

The figures below are nominal:

Diameter: 27 cm

Height: 27 cm

### COMPONENTS

CJC™ Filter Inserts type BLAT consist of bonded discs. Main ingredient is cotton linters.

### IDENTIFICATION

To order the 27/27 Filter Insert, please use:

Article No:

1 x 27/27: PA5601301

1 x 27/27: PA5601304



The anticipated increase in differential pressure ( P ), measured in bar, across one new 27/27 Filter Insert is:

Flow rate, L/h	Differential Pressure ( P ), in bar				
	Viscosity, cSt				
	100	200	300	400	500
200	0.15	0.30	0.48	0.64	0.80
400	0.30	0.65	0.96	1.28	1.60
600	0.50	0.95	1.44	1.92	2.40
800	0.65	1.30	1.92	2.56	3.20

To calculate the differential pressure across several Filter Inserts, divide the differential pressure reading from the table with the number of Filter Inserts in a filter housing.





# 1.2

# Drivstofffiltrering

# Drivstofffiltrering

## Dieselfiltrering

Dieselfiltre kjennetegnes ved at de normalt monteres på sugesiden av pumpen og de beste har et tre trinns filtreringsprinsipp.

### Trinn 1:

Dieselen kommer inn i filterbollen, settes i en roterende bevegelse som gjør at vann og de største partiklene (over 30 mikron) felles ut, og synker til bunns i filterbollen.

### Trinn 2:

Vannavskilling ved "coalescer" prinsippet hvor fritt vann fanges i en filteroverflate til små vandråper som samles i bunnen på filterbollen.

### Trinn 3:

Finfilter med finhet 2-30 mikron, absolutt filter.

### Kriterier for riktig valg av dieselfilter:

- Drivstoffsforbruk
- Filtreringsgrad
- Tilkobling
- Materialvalg
- Temperatur
- Vannsensor

Ofte velges dobbel filterinstallasjon slik at man kan skifte filterinnsats når motoren er i drift. Se bildet!



Part no F-449-4096-96 Diesel filter unit 36 l/min

### Filterelement til dieselaggregat

2 micron	Filterinnsats	2020 SM (brun)
10 micron	Filterinnsats	2020 TM (blå)
30 micron	Filterinnsats	2020 PM (rød)

## Bensinfiltrering

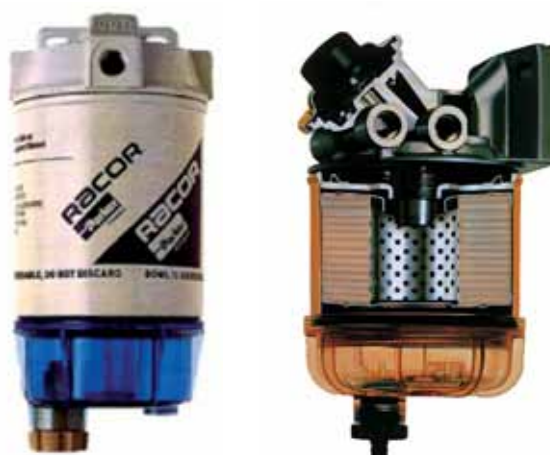
Drivstoff filtre brukes på alle forbrenningsmotorer.

Bensin filtre bør innfri følgende krav:

- Fjerne kondensvann
- Fjerne rust og skitt i drivstoffet

Kan ha:

- Enkel tappekran for vann og skitt
- Tilbakeslagsventil
- Manuell pumpe til bensin
- Lufteskrue



# Racor diesel filtrering

## Dieselen renses i tre trinn

### 1, Separering:

Faste partikler og vann ned til 30 my separeres fra dieselen via sentrifugalvirksomhet. Dette ved at dieselen føres gjennom en kjegleformet sentrifuge. Siden egenvekten til forurensingen er større enn egenvekten til oljen, faller disse ned til bunnen av beholderen som utgjør nederste del av filteret. Forurensningene dreneres ut via en dreneringsventil.

### 2, Koalisering:

Partikler som er lettere enn diesel forblir i dieselen i svevende tilstand. Disse flyter opp til overflaten av den kjegleformede innsatsen i RACOR filteret. Her koaliseres de små dråpene på overflaten av den kjegleformede innsatsen, og smeltes sammen til større dråper. Disse faller ned til bunnen av beholderen, og dreneres ut.

### 3, Finfiltrering:

Tilslutt føres dieselen gjennom den utskiftbare filterinnsatsen hvor partikler ned til 2 my blir utskilt. Ren diesel kommer ut av utløpet på filteret.



Mikron	2 my	10my	30my
Farge	Brun	Blå	Rød
Benevn.	SM	TM	PM

## Fuel Filtration Products

- Diesel
- Gasoline
- Alternative Fuels
- Aviation Fuels



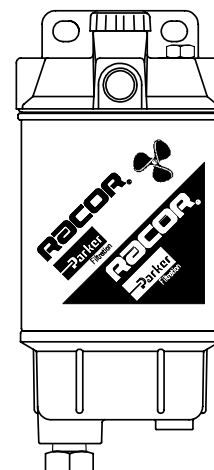
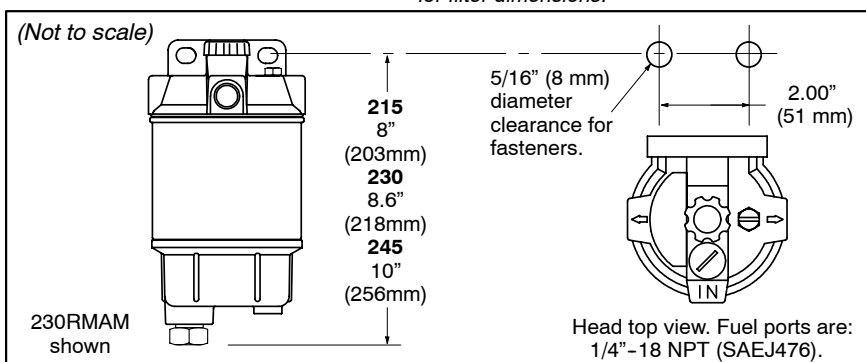
# Marine Diesel Spin-on Series Model 215, 230, 245RMAM

**SPECIFICATIONS** are found on the introduction page.

<b>245RMAM</b>	<b>Replacement Service Element</b> SERVICE ELEMENT INCLUDES SEALS.
215RMAM: 15 GPH 230RMAM: 30 GPH 245RMAM: 45 GPH Includes primer pump and metal bowl.	215 use <b>R15TUL</b> (10 Micron) 12/case 230 use <b>R20TUL</b> (10 Micron) 12/case 245 use <b>R25TUL</b> (10 Micron) 12/case

## Mounting Hole Pattern

-Refer to Diesel Spin-on Series introduction page for filter dimensions.

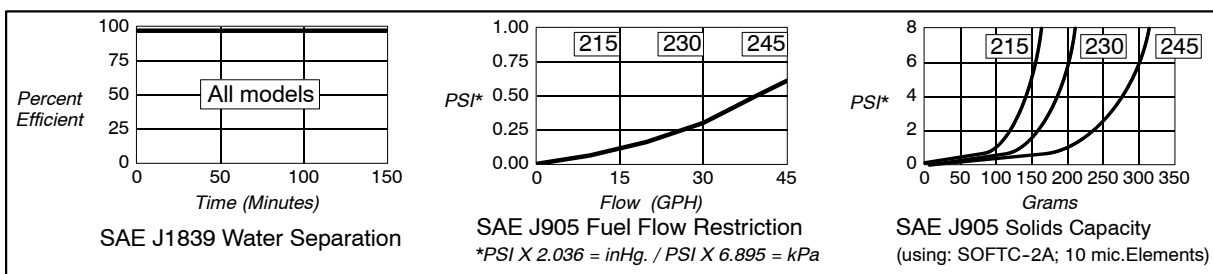


245RMAM shown



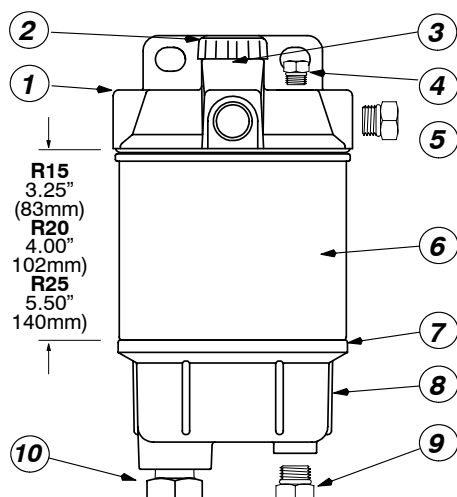
## Performance Graphs

-These results are from controlled laboratory tests. Field results may vary by application.



## Parts List

The circled number corresponds to the item number shown in the parts list below.



Item/Part No.	Description	Case Qty.
1 RK20046	Head, 1/4" NPT Ports	1
2 RK20025	Primer Pump Assembly	1
3 RK20011	Check Ball and Plastic Cap	1
RK20742	Metal Check Ball Cap	1
4 RK10110	Metal Vent Plug, 3/8"-16 UNF	1
5 RK12041	Metal Plug, 1/4" NPT	1
6	See 'Replacement Service Element' box above	
7 RK22244	Bowl O-ring	20
8 RK22368	Beige Metal Bowl (with 3/8 NPT drain and 1/2"-20 probe ports)	1
9 RK20022	Metal Plug, 1/2"-20 UNF	1
10 918-N6	Steel Plug, 3/8" NPT	1
RK20075	Complete Gasket/O-ring Kit	1
22360	Installation Instructions, 200 Series	

# Marine Diesel Spin-on Series Model 445, 460, 4120MAM

**SPECIFICATIONS** are found on the introduction page.

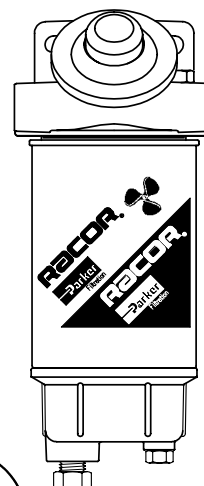
**How to Order** -The example below illustrates how the part numbers are constructed.

445MAM	P	10
<b>445MAM:</b> 45 GPH <b>460MAM:</b> 60 GPH <b>490MAM:</b> 90 GPH <b>4120MAM:</b> 120 GPH The powder coated head includes a hand primer pump with 2 inlets & outlets. The metal bowl is standard.	<u>Water Probe:</u> <sup>1</sup> Specify 'P' for an in-bowl water probe. (Racor part number RK21069). Omit 'P' if not desired.	<u>Element Filtration Rating:</u> These units are standard with a 10 micron element. Add '10' to the part number.

<sup>1</sup> Order a water detection module separately from the Marine Accessories Section.

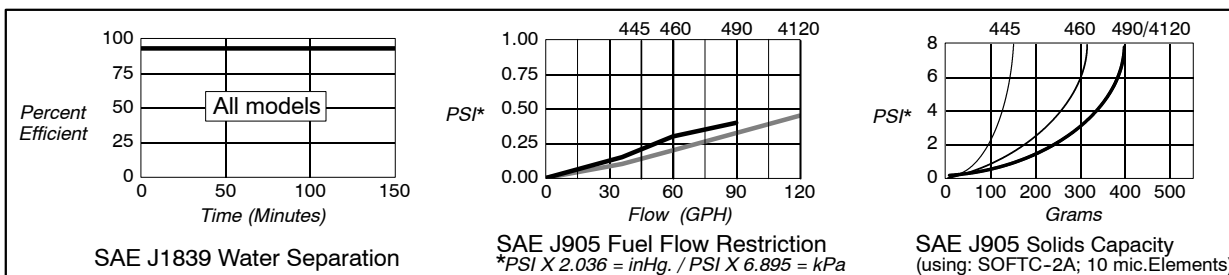
**Replacement Service Elements** -Service elements include seals.

445MAM	use	<b>S3204TUL</b> (10 Micron) 12 per case
460MAM	use	<b>S3211TUL</b> (10 Micron) 12 per case
490MAM	use	<b>S3201TUL</b> (10 Micron) 12 per case
4120MAM	use	<b>S3201TUL</b> (10 Micron) 12 per case



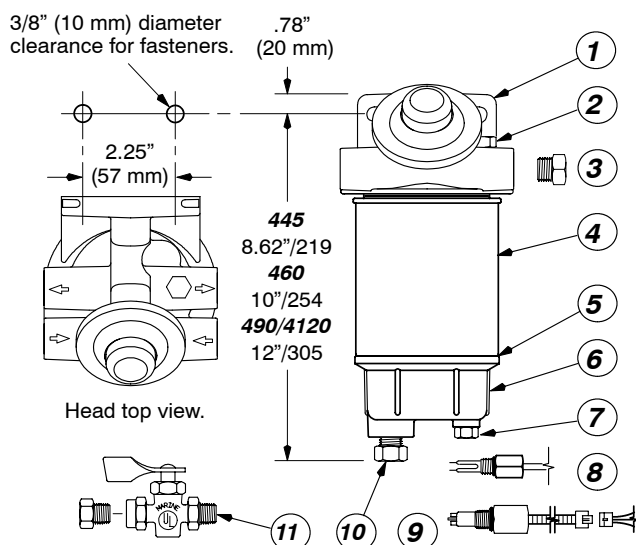
490MAM

**Performance Graphs** -These results are from controlled laboratory tests. Field results may vary by application.



## Mounting Hole Pattern / Parts List

The circled number corresponds to the item number shown.



Item/Part No.	Description	Case Qty.
1 RK22425	Mounting Head, 3/8"NPT	1
RK22270	4120 Mounting Head, 3/4"UNF	1
2 RK10110	Vent Plug (metal)	1
3 01SP-6S	Metal Plug, 3/8" NPT	1
4 S3204TUL	445 Service Element, 10 micron	12
S3211TUL	460 Service Element, 10 micron	12
S3201TUL	490/4120 Service Element, 10 mic.	12
5 RK30076	Bowl O-ring	20
6 RK30495	Beige Metal Bowl, 1/4"NPT & 1/2"UNF Ports	1
7 RK20022	Metal Plug, 1/2"-20 UNF	1
8 RK21069 <sup>1</sup>	Water Probe, 1/2"-20 UNF	1
9 RK30880	Water Probe with Electronics	1
10 918-N4	Steel Plug, 1/4" NPT	1
11 RK19492	UL Listed Marine Shut-off Valve	1
22490	Installation Instructions, 400 Series	

<sup>1</sup> Use with water detection module. See Accessories Section.



# Turbine Series

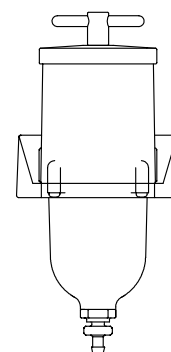
## Model 500FG

**SPECIFICATIONS** are found on *Turbine Series introduction page*.

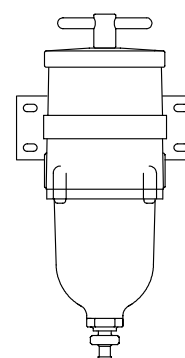
**How to Order** -The example below illustrates how the part numbers are constructed.

Note - to order a unit with metric threads, specify an asterisk (\*) in front of the part number.

500FG	P	12	SS	10
Basic Model 60 GPH. For metal bowl unit see <i>Marine Turbine Series</i> in Section Two.	<u>Water Probe.</u> <sup>1</sup> Add 'P' for an in-bowl water probe. (Omit if not desired).	<u>150 watt Electric Heater.</u> <sup>2</sup> Add: '12' for 12 vdc or '24' for 24 vdc (Omit if not desired).	<u>3-piece bracket.</u> Add 'SS' for this bracket option. (Omit if not desired).	<u>Element Filtration Rating.</u> Specify one: '2' for 2 micron or '10' for 10 micron or '30' for 30 micron
<sup>1</sup> Must be used with Water Detection Kit -See Accessories Section. <sup>2</sup> Recommended for use with Racor Heater Relay Kit -See Accessories Section.				



500FG

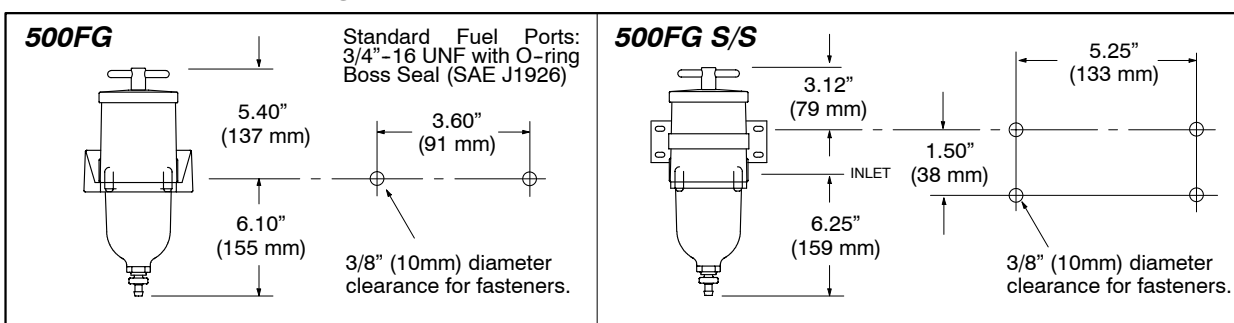


500FGSS

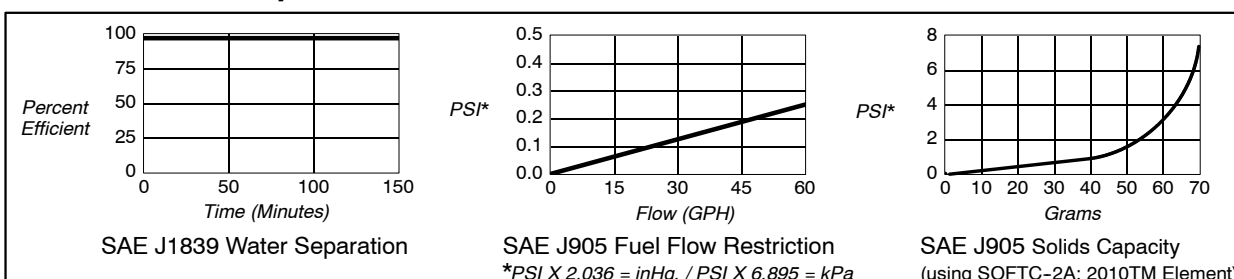
**Replacement Service Elements** -For all Model 500 Series  
SERVICE ELEMENT INCLUDES LID SEAL & T-HANDLE O-RING.

<b>2010SM-OR</b>	2 Micron (Brown end caps) Recommended for Final /Secondary Filtration
<b>2010TM-OR</b>	10 Micron (Blue end caps) Recommended for Primary or Secondary Filtration
<b>2010PM-OR</b>	30 Micron (Red end caps) Recommended for Primary Filtration Only. ( A secondary/final filter is required downstream ).

### Dimension / Mounting Hole Patterns



**Performance Graphs** These results are from controlled laboratory tests. Field results may vary.





# Turbine Series Model 500FG

FIGURE 1. 500 Series Cutaway View. The circled number corresponds to the item number shown below.

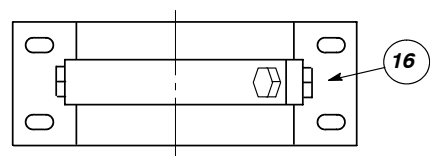
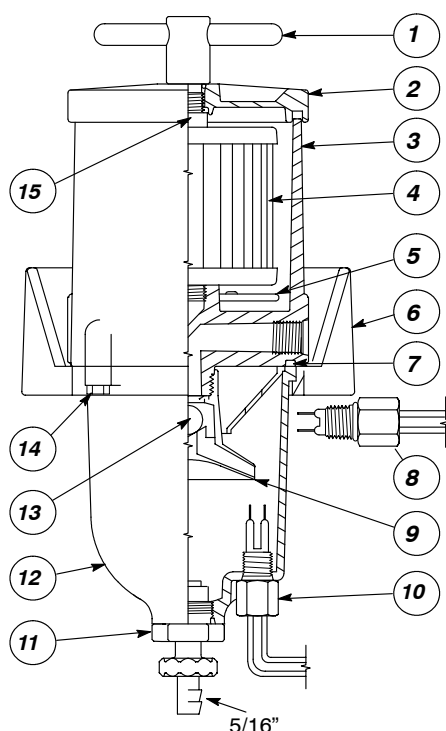


FIGURE 2. Drain valve configurations.  
(<sup>4</sup> Replace with 30488 drain valve)

Item/Part No.	Description	Case Qty.
1 RK11888	T-handle (FG/FGSS only), thread is 9/16"-18 SAE	1
11350	T-handle O-ring (FG)	10
11003	T-handle Nylon Gasket (FE/FF -not shown)	10
2 RK15078	Lid (FG/FGSS/FGMSS)	1
15005	Lid Gasket (All models)	10
3 RK15377-01	Body, 3/4"-16 UNF fuel ports (FG, effective 1/15/96)	1
RK15377-02	Body, 16M X 1.5 fuel ports (metric, effective 1/15/96)	1
RK15377-03	Body, 3/8"-18 NPTF fuel ports (effective 1/15/96)	1
RK15082	Body, 9/16"-18 UNF fuel ports (FF/FG)	1
4 2010SM-OR	2 Micron Element w/ Seals	12
2010TM-OR	10 Micron Element w/ Seals	12
2010PM-OR	30 Micron Element w/ Seals	12
5 RK15310-01	Heater, 12 vdc, 150 watt (for use with body feed-thru)	1
RK15383-01 <sup>1</sup>	Heater, 12 vdc, 150 watt with body feed-thru (item 8)	1
RK15310-02	Heater, 24 vdc, 150 watt (for use with body feed-thru)	1
RK15383-02 <sup>1</sup>	Heater, 24 vdc, 150 watt with body feed-thru (item 8)	1
HEATER RETROFIT KITS FOR OLDER UNITS: SEE ACCESSORIES		
6 RK15090	Mounting Bracket w/ Attached Bowl Ring (FG)	1
RK15035	Bowl Ring (FE/FF/FGSS -not shown)	1
7 15374	Bowl Gasket (supercedes 15009 O-ring -All models)	10
8 RK21067	Body Feed-thru Assembly (for bodies with feed-thru port) 1 (wire gauge = 14 AWG)	1
9 RK15013D	Turbine Centrifuge / Conical Baffle (All models)	1
10 RK21069 <sup>2</sup>	Water Probe (for bowls with 1/2"-20 UNF port present)	1
RK20126	Water Probe Port Plug (plastic)	1
11 RK30488	Self-Venting Drain (FF/FG/FGSS, See Figure 2)	10
11040	Bowl Drain Fitting (FE/FF, See Figure 2)	10
RK11341	Bowl Drain Gasket Kit (11041 & 11340 -not shown)	10
12 RK15279	See-thru Bowl w/ Water Probe Port & Plug	1
RK15301	Metal Bowl with 1/4"NPT drain threads (FFM/FGMSS)	1
13 RK15010B	Check Ball w/ Seal (All models)	1
14 RK15081-01 <sup>3</sup>	Phillips Head Capscrews 10-24 x 1" (4)	1
RK15081 <sup>3</sup>	Hex/Washer Head Capscrews 10-24 x 7/8" (4)	1
15 RK15079	Standard Return Tube	1
16 RK15300	Mounting Bracket, 3-piece Clamp Type (FGSS/FGM)	1
17 RK15211	Assembly Seal Service Kit, All models (not shown)	1
RK11746	Seal Service Kit for Drain #11780 (See Figure 2)	1
15332	Installation Instructions, 500 Series	

- <sup>1</sup> Filter body must have port next to fuel Inlet for heater feed-thru installation. In-filter heater kits may require a Heater Relay Kit. Power requirements are (maximum) : 12vdc = 12.5 amps, 24vdc = 6.3 amps.
- <sup>2</sup> Water probe must be used with a Water Detection Kit.
- <sup>3</sup> Models built prior to 2/96 use RK15081-01, after 2/96 use RK15081.  
(The fuel ports have a 1 1/4" square boss on models made after 2/96 ).  
See Accessories Section.

# Turbine Series

## Model 900FG

**SPECIFICATIONS** are found on *Turbine Series introduction page*.

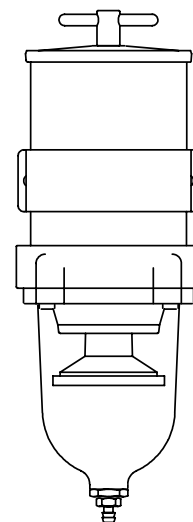
**How to Order** –The example below illustrates how the part numbers are constructed.

Note – to order a unit with metric threads, specify an asterisk (\*) in front of the part number.

900FG	P	312	10
<u>Basic Model</u> 90 GPH. For metal bowl unit see <i>Marine Turbine Series</i> in Section Two.	<u>Water Probe.</u> <sup>1</sup> Add 'P' for an in-bowl water probe. (Omit if not desired).	<u>300 watt Electric Heater.</u> <sup>2</sup> Specify: '312' for 12 vdc or '324' for 24 vdc (Omit if not desired).	<u>Element Filtration Rating.</u> Specify one: '2' for 2 micron '10' for 10 micron or '30' for 30 micron
<sup>1</sup> Must be used with Water Detection Kit –See Accessories Section. <sup>2</sup> May require the use of a Relay Kit –See Accessories Section.			

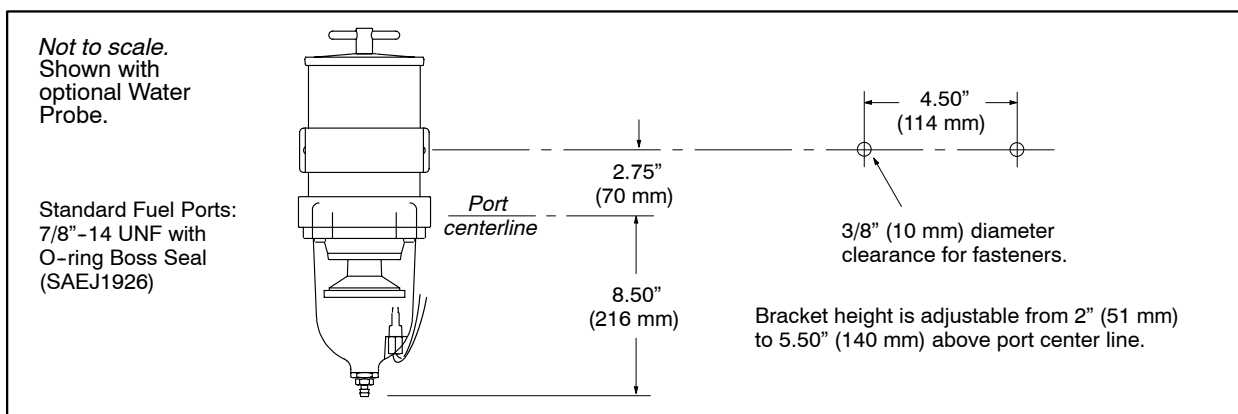
**Replacement Service Elements** –For all Model 900 Series  
 SERVICE ELEMENT INCLUDES LID SEAL & T-HANDLE O-RING.

<b>2040SM-OR</b>	<b>2 Micron (Brown end caps)</b> Recommended for Final /Secondary Filtration
<b>2040TM-OR</b>	<b>10 Micron (Blue end caps)</b> Recommended for Primary or Secondary Filtration
<b>2040PM-OR</b>	<b>30 Micron (Red end caps)</b> Recommended for Primary Filtration Only. ( A secondary/final filter is required downstream ).

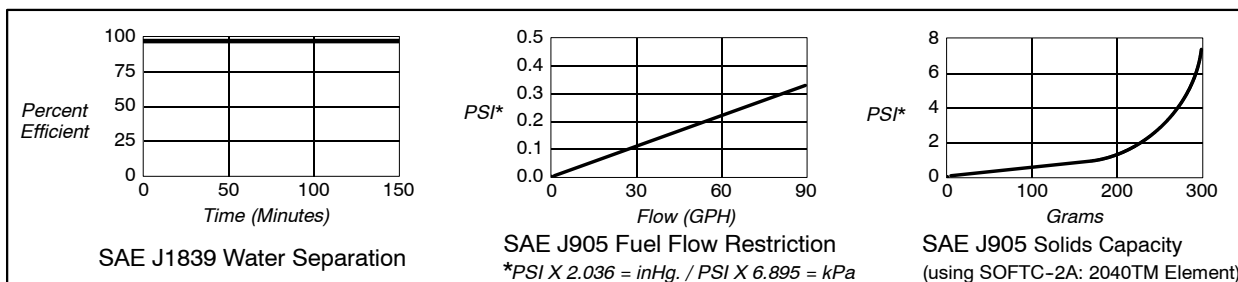


900FG

**Mounting Hole Pattern** –Refer to *Turbine Series introduction page* for filter dimensions.

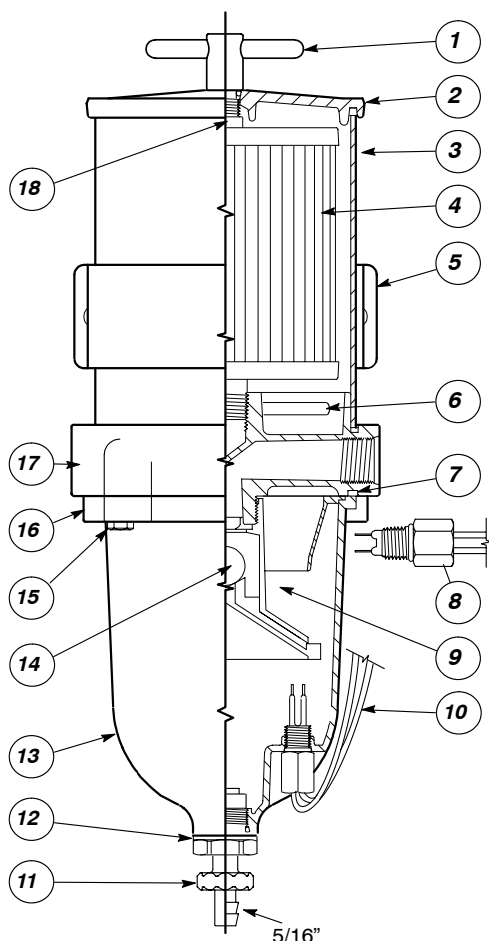


**Performance Graphs** –These results are from controlled laboratory tests. Field results may vary by application.



# Turbine Series Model 900FG

FIGURE 1. 900 Series Cutaway View. The circled number corresponds to the item number shown below.



Item/Part No.	Description	Case Qty.
1 RK11888	T-Handle, thread is 9/16"-18 SAE	1
11350	T-Handle O-ring	10
11003	T-Handle Gasket, Nylon (FE/FF)	10
2 RK11005B	Standard Lid	1
11007	Square-cut Gasket (Lid & Bowl ring)	10
RK11005/A	Lid, T-Handle and O-ring Kit	1
RK11005B-02	Lid with Vent Port and Plug Kit (not shown)	1
3 RK19002	Outer Cylinder	1
4 2040SM-OR	2 Micron Element w/ Seals	12
2040TM-OR	10 Micron Element w/ Seals	12
2040PM-OR	30 Micron Element w/ Seals	12
5 RK11815-101	Body Clamp Bracket	1
6 RK11-1767-01	Heater, 12 vdc, 300 watt (for use with body feed-thru)	1
RK11-1800-01 <sup>1</sup>	Heater, 12 vdc, 300 watt with body feed-thru (item 8)	1
RK11-1767-02	Heater, 24 vdc, 300 watt (for use with body feed-thru)	1
RK11-1800-02 <sup>1</sup>	Heater, 24 vdc, 300 watt with body feed-thru (item 8)	1
HEATER RETROFIT KITS FOR OLDER UNITS: SEE ACCESSORIES		
7 11007	Square-cut Gasket (Lid & Bowl ring)	10
11036	Bowl O-Ring (FE only-not shown)	10
8 RK21067	Body Feed-thru Assy. (for bodies with feed-thru port) (wire gauge = 14 AWG)	1
RK11-1679	Body Feed-thru Port Plug (plastic)	1
9 RK11026D	Turbine Centrifuge / Conical Baffle	1
10 RK21069 <sup>2</sup>	Water Probe (for bowls with 1/2"-20 port)	1
RK20126	Water Probe Port Plug (plastic)	1
11 RK30488	Self-venting Drain (FF/FG/FGSS, See Figure 2)	10
RK11746	Seal Service Kit for Drain #11780 (See Figure 2)	1
12 11040	Bowl Drain Fitting (FE/FF, See Figure 2)	10
RK11341	Bowl Drain Gasket Kit (11041 & 11340, not shown)	10
13 RK11-1606	See-thru Bowl with Water Probe Port & Plug	1
RK11734	Metal Bowl w/1/4"NPT Drain & Plug (FGM)	1
RK11734-01	Same as above but with Water Probe Port & Plug	1
14 RK11028B	Check Ball and Seal	10
15 RK11542	Hex/Washer Head Capscrew, 1/4"-20 x 1" (4)	1
16 RK11037A	Bowl Ring, 5" diameter (FF/FG)	1
17 RK11-1678	Body, 7/8"-14 SAE w/ Heater Feed-thru Port	1
RK11-1776-01	Body, (Same as above but includes return tube)	1
RK11-1776-02	Body, Metric 22mm X 1.5 with Heater Port	1
18 RK19474	Return Tube w/ straight (body-end) threads	1
RK19001	Return Tube w/ tapered pipe (body-end) threads	1
19 RK11-1404	Assembly Seal Service Kit (all models-not shown)	1
19472	Installation Instructions, 900/1000 Series	

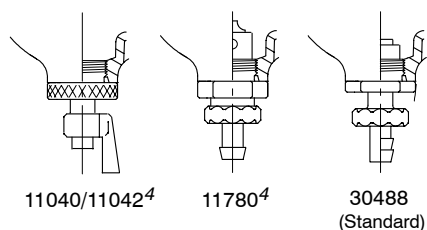


FIGURE 2. Drain valve configurations.  
(<sup>4</sup> Replace with 30488 drain valve )

- <sup>1</sup> Filter body must have port next to fuel Inlet for heater feed-thru installation. In-filter heater may require a Heater Relay Kit. Power requirements are (maximum) : 12vdc = 25 amps, 24vdc = 12.5 amps.
- <sup>2</sup> Water probe must be used with a Water Detection Kit. See Accessories Section.

# Turbine Series

## Model 1000FG

**SPECIFICATIONS** are found on *Turbine Series introduction page*.

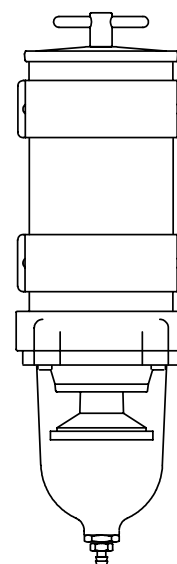
**How to Order** -The example below illustrates how the part numbers are constructed.

Note - to order a unit with metric threads, specify an asterisk (\*) in front of the part number.

<b>1000FG</b>	<b>P</b>	<b>312</b>	<b>10</b>
<u>Basic Model</u> 180 GPH. For metal bowl unit see <i>Marine Turbine Series</i> in Section Two.	<u>Water Probe.</u> <sup>1</sup> Add 'P' for an in-bowl water probe. (Omit if not desired).	<u>300 watt Electric Heater.</u> <sup>2</sup> Specify: '312' for 12 vdc or '324' for 24 vdc (Omit if not desired).	<u>Element Filtration Rating.</u> Specify one: '2' for 2 micron '10' for 10 micron or '30' for 30 micron
<sup>1</sup> Must be used with Water Detection Kit -See Accessories Section. <sup>2</sup> May require the use of a Relay Kit -See Accessories Section.			

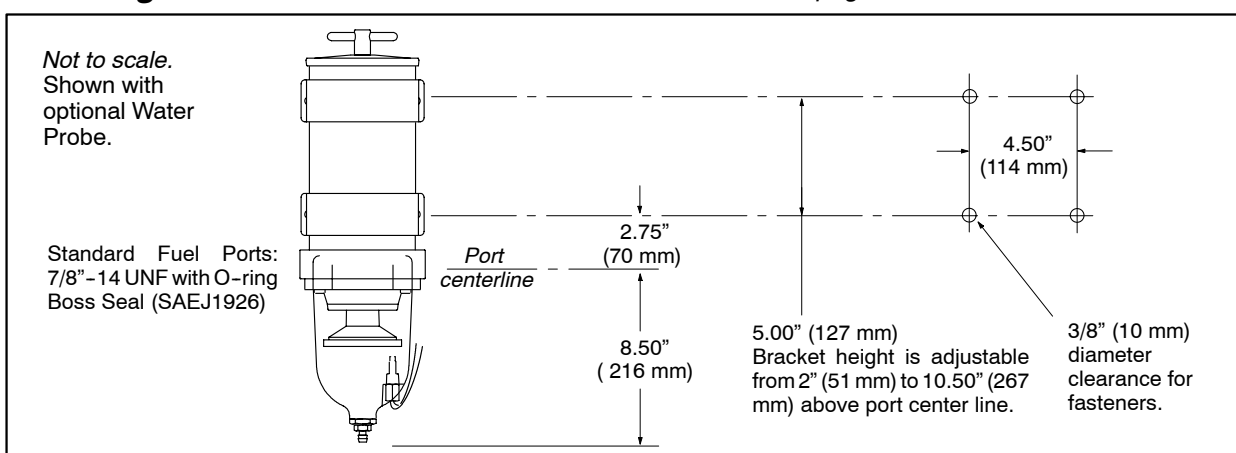
**Replacement Service Elements** -For all Model 1000 Series  
 SERVICE ELEMENT INCLUDES LID SEAL & T-HANDLE O-RING.

<b>2020SM-OR</b>	<b>2 Micron (Brown end caps)</b> Recommended for Final /Secondary Filtration
<b>2020TM-OR</b>	<b>10 Micron (Blue end caps)</b> Recommended for Primary or Secondary Filtration
<b>2020PM-OR</b>	<b>30 Micron (Red end caps)</b> Recommended for Primary Filtration Only. ( A secondary/final filter is required downstream )

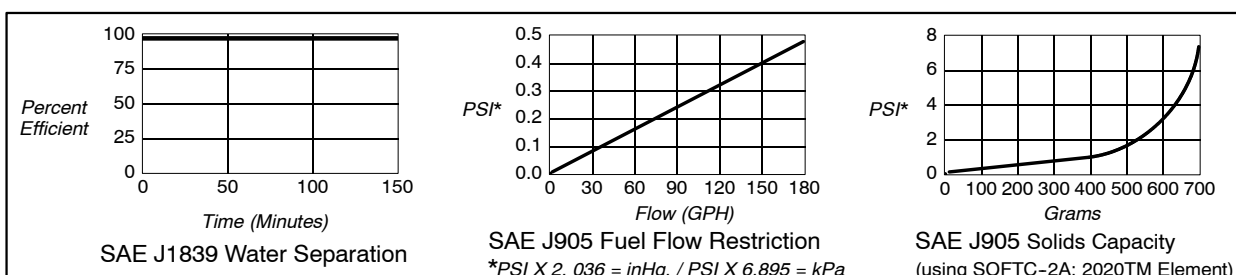


1000FG

**Mounting Hole Pattern** -Refer to Turbine Series introduction page for filter dimensions.

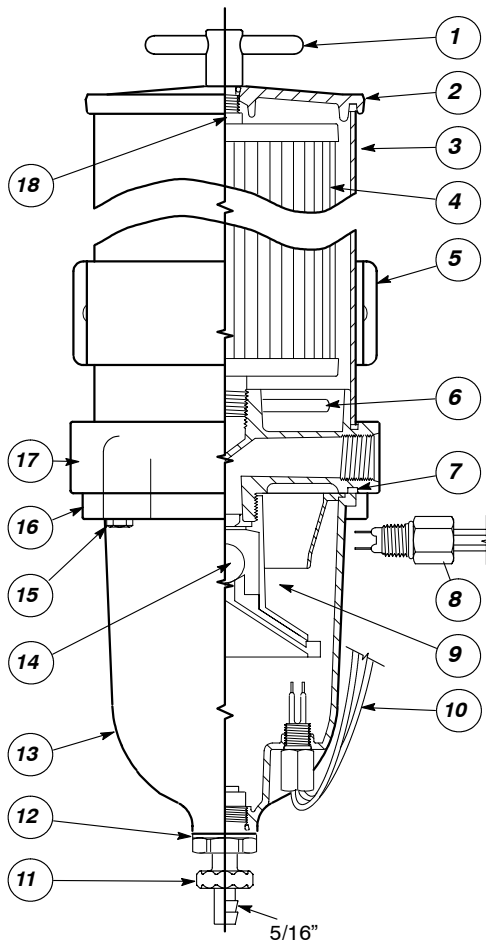


**Performance Graphs** -These results are from controlled laboratory tests. Field results may vary by application.



# Turbine Series Model 1000FG

FIGURE 1. 1000 Series Cutaway View. The circled number corresponds to the item number shown below.



Item/Part No.	Description	Case Qty.
1 RK11888	T-Handle, thread is 9/16"-18 SAE	1
11350	T-Handle O-ring	10
11003	T-Handle Gasket, Nylon (FE/FF)	10
2 RK11005B	Standard Lid	1
11007	Square-cut Gasket (Lid & Bowl ring)	10
RK11005/A	Lid, T-Handle and O-ring Kit	1
RK11005B-02	Lid with Vent Port and Plug Kit (not shown)	1
3 RK11021	Outer Cylinder	1
4 2020SM-OR	2 Micron Element w/ Seals	12
2020TM-OR	10 Micron Element w/ Seals	12
2020PM-OR	30 Micron Element w/ Seals	12
5 RK11815-101	Body Clamp Bracket	1
6 RK11-1767-01	Heater, 12 vdc, 300 watt (for use with body feed-thru)	1
RK11-1800-01 <sup>1</sup>	Heater, 12 vdc, 300 watt with body feed-thru (item 8)	1
RK11-1767-02	Heater, 24 vdc, 300 watt (for use with body feed-thru)	1
RK11-1800-02 <sup>1</sup>	Heater, 24 vdc, 300 watt with body feed-thru (item 8)	1
HEATER RETROFIT KITS FOR OLDER UNITS: SEE ACCESSORIES		
7 11007	Square-cut Gasket (Lid & Bowl ring)	10
11036	Bowl O-Ring (FE only-not shown)	10
8 RK21067	Body Feed-thru Assy. (for bodies with feed-thru port) (wire gauge = 14 AWG)	1
RK11-1679	Body Feed-thru Port Plug (plastic)	1
9 RK11026D	Turbine Centrifuge / Conical Baffle	1
10 RK21069 <sup>2</sup>	Water Probe (for bowls with 1/2"-20 port)	1
RK20126	Water Probe Port Plug (plastic)	1
11 RK30488	Self-venting Drain (FF/FG/FGSS, See Figure 2)	10
RK11746	Seal Service Kit for Drain #11780 (See Figure 2)	1
12 11040	Bowl Drain Fitting (FE/FF, See Figure 2)	10
RK11341	Bowl Drain Gasket Kit (11041 & 11340, not shown)	10
13 RK11-1606	See-thru Bowl with Water Probe Port & Plug	1
RK11734	Metal Bowl w/1/4"NPT Drain & Plug (FGM)	1
RK11734-01	Same as above but with Water Probe Port & Plug	1
14 RK11028B	Check Ball and Seal	10
15 RK11542	Hex/Washer Head Capscrew, 1/4"-20 x 1" (4)	1
16 RK11037A	Bowl Ring, 5" diameter (FF/FG)	1
17 RK11-1678	Body, 7/8"-14 SAE w/ Heater Feed-thru Port	1
18 RK11-1775	Return Tube w/ straight (body-end) threads	1
RK11008	Return Tube w/ tapered pipe (body-end) threads	1
19 RK11-1404	Assembly Seal Service Kit (all models-not shown)	1
19472	Installation Instructions, 900/1000 Series	

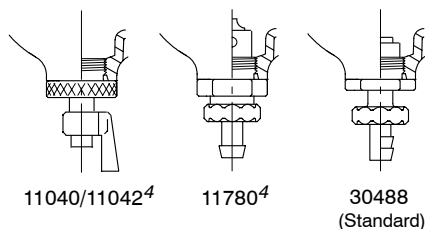


FIGURE 2. Drain valve configurations.  
(<sup>4</sup> Replace with 30488 drain valve)

- <sup>1</sup> Filter body must have port next to fuel Inlet for heater feed-thru installation. In-filter heater may require a Heater Relay Kit. Power requirements are (maximum) : 12vdc = 25 amps, 24vdc = 12.5 amps.
- <sup>2</sup> Water probe must be used with a Water Detection Kit. See Accessories Section.

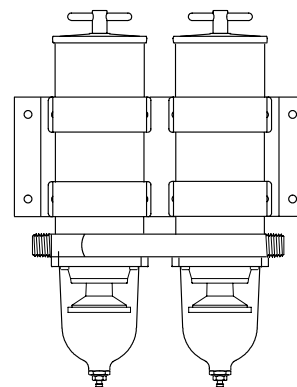
# Turbine Series

## Model 73/1000FG

**SPECIFICATIONS** are found on Turbine Series introduction page.

**How to Order** -The example below illustrates how the part numbers are constructed.

<b>73/1000FG</b>	<b>P</b>	<b>312</b>	<b>10</b>
<b>Basic Model</b> 360 GPH For metal bowl unit see <i>Marine Turbine Series</i> in Section Two.	<b>Water Probes.<sup>1</sup></b> Add 'P' for in-bowl water probes. (Omit if not desired).	<b>300 watt Electric Heaters.<sup>2</sup></b> Specify: '312' for 12 vdc or '324' for 24 vdc. (Omit if not desired).	<b>Element Filtration Rating.</b> Specify one: '2' for 2 micron, '10' for 10 micron or '30' for 30 micron
<sup>1</sup> Must be used with Water Detection Kit -See Accessories Section. <sup>2</sup> Must be used with a Relay Kit -See Accessories Section.			

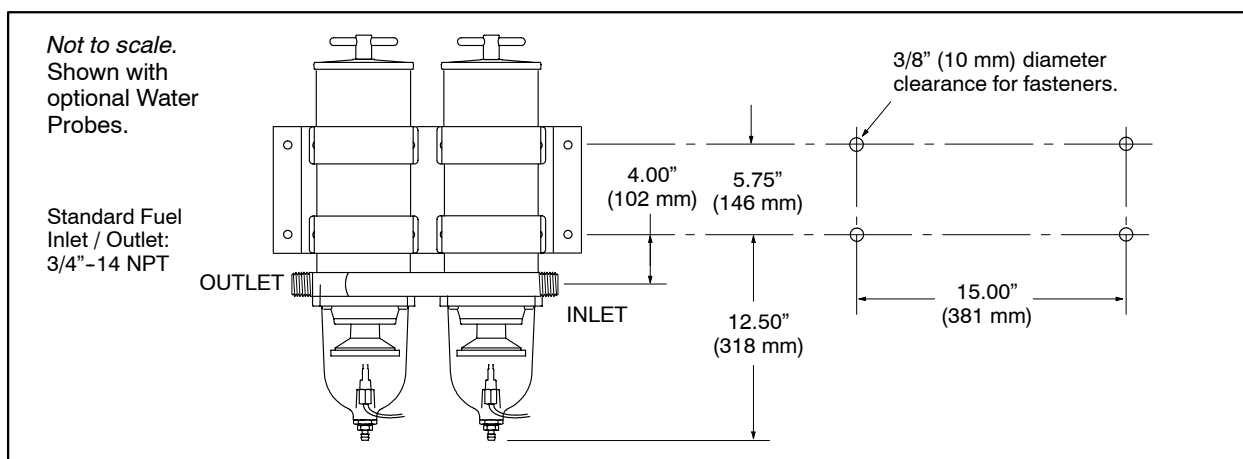


73/1000FG

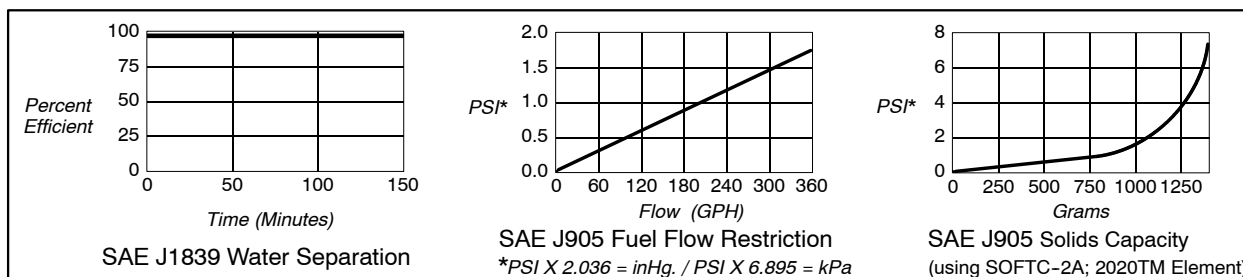
**Replacement Service Elements** -For all Model 73/1000 Series  
SERVICE ELEMENT INCLUDES LID SEAL & T-HANDLE O-RING. Order two (2) per unit.

- 2020SM-OR** 2 Micron (Brown end caps)  
Recommended for Final /Secondary Filtration
- 2020TM-OR** 10 Micron (Blue end caps)  
Recommended for Primary or Secondary Filtration
- 2020PM-OR** 30 Micron (Red end caps)  
Recommended for Primary Filtration\* Only.  
\*A secondary/final filter is required downstream.

**Mounting Hole Pattern** -Refer to Turbine Series introduction page for filter dimensions.



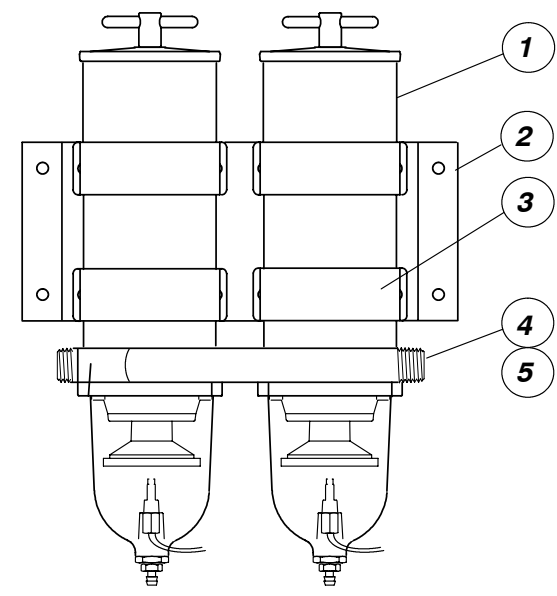
**Performance Graphs** - These results are from controlled laboratory tests. Field results may vary by application.



# Turbine Series

## Model 73/1000FG

FIGURE 1. 73/1000 Series. The circled number corresponds to the item number shown in the parts list below.



73/1000FGP Model shown

Item	Part No.	Description	Case Qty.
1	1000FG	Shell. Refer to Model 1000FG for a complete parts list.	
2	11065	Dual Bracket	1
3	RK11815-101	Clamp Bracket Assembly	1
4	RK11892	3/4" Inlet & Outlet Manifolds	1
5	11071	Straight Fitting	1
	11-1825	Installation Instructions, 73/1000FG	

For Heater Relay Kits, Water Detection Kits and Manifold Conversion Kits, see the Accessories Section.

For parts not listed, call Racor customer service: (800) 344-3286.



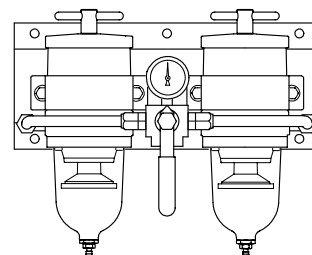
# Turbine Series

## Model 75/500FGX

**SPECIFICATIONS** are found on *Turbine Series introduction page*.

**How to Order** -The example below illustrates how the part numbers are constructed.

75/500FGX	P	12	10
<b>Basic Model</b> 120 GPH For metal bowl unit see <i>Marine Turbine Series</i> in Section Two.	<b>Water Probes.</b> <sup>1</sup> Add 'P' for in-bowl water probes. (Omit if not desired).	<b>150 watt Electric Heaters.</b> <sup>2</sup> Specify: '12' for 12 vdc or '24' for 24 vdc. (Omit if not desired).	<b>Element Filtration Rating.</b> Specify one: 2 for 2 micron, 10 for 10 micron or 30 for 30 micron
<sup>1</sup> Must be used with Water Detection Kit -See Accessories Section. <sup>2</sup> Must be used with a Relay Kit -See Accessories Section.			

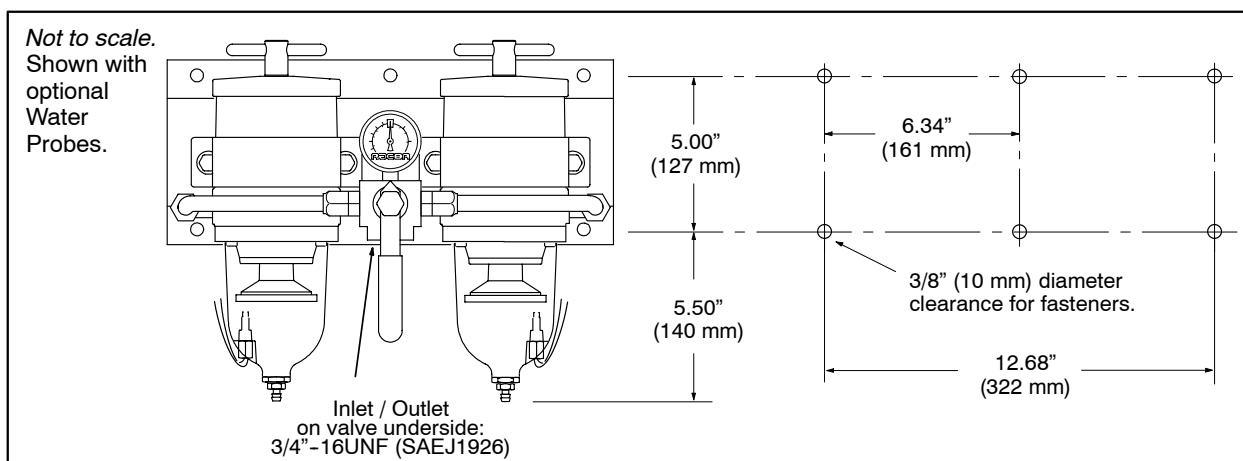


75/500FGX

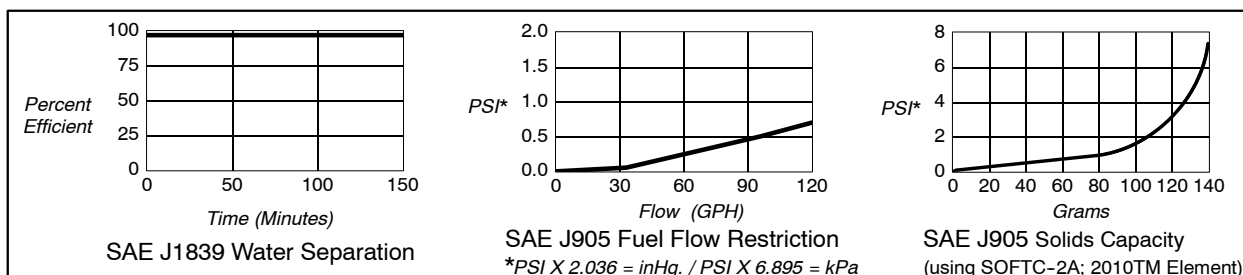
**Replacement Service Elements** -For all Model 75/500FGX Series  
SERVICE ELEMENT INCLUDES LID SEAL & T-HANDLE O-RING. Order two (2) per unit.

- 2010SM-OR** 2 Micron (Brown end caps)  
Recommended for Final /Secondary Filtration
- 2010TM-OR** 10 Micron (Blue end caps)  
Recommended for Primary or Secondary Filtration
- 2010PM-OR** 30 Micron (Red end caps)  
Recommended for Primary Filtration\* Only.  
\*A secondary/final filter is required downstream.

**Mounting Hole Pattern** -Refer to *Turbine Series introduction page* for filter dimensions.



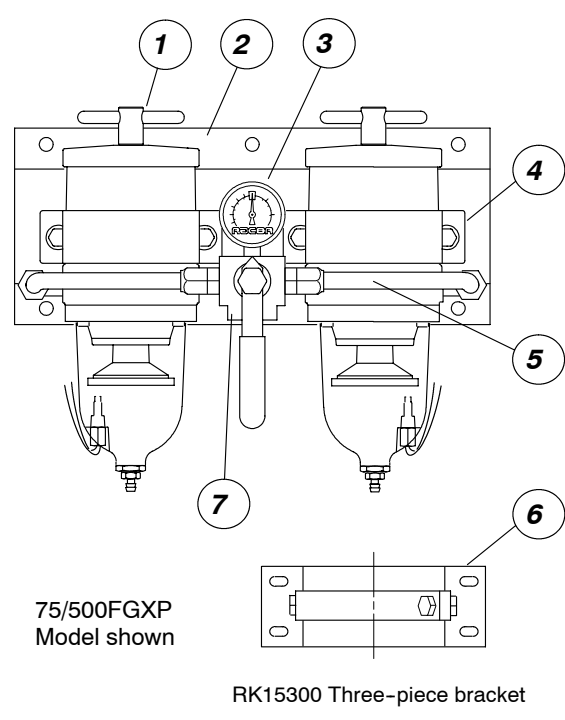
**Performance Graphs** -These results are from controlled laboratory tests. Field results may vary by application.



# Turbine Series

## Model 75/500FGX

FIGURE 1. 75/500 Series. The circled number corresponds to the item number shown in the parts list below.



Item	Part No.	Description	Case Qty.
1	500FGSS	Shell. Refer to Model 500FGSS for a complete parts list	
2	RK15329	Main Bracket, (Shown, for one-pc.brkts)	1
	RK15329-01	Main Bracket, (Accommodates three piece body clamp brackets, see item 6)	1
3	RK19476	Gauge Assembly	1
4	RK15378	Body Clamp Bracket, One-Piece	1
5	RK15344	Rigid Tubing & Fittings Kit	1
6	RK15300	Body Clamp Bracket, Three-Piece	1
7	RK15321	Valve Assembly	1
	RK15389	Valve Service Kit	1
	15349	Installation Instructions	

For Fuel Port Adapter Fittings, Heater Relay Kits, Water Detection Kits and Manifold Conversion Kits, see the Accessories Section.

For parts not listed, call Racor customer service: 800/344-3286.

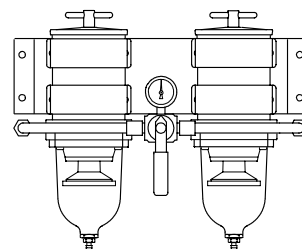
# Turbine Series

## Model 75/900FGX

**SPECIFICATIONS** are found on Turbine Series introduction page.

**How to Order** -The example below illustrates how the part numbers are constructed.

75/900FGX	P	312	10
Basic Model 180 GPH For metal bowl unit see Marine Turbine Series in Section Two.	Water Probes. <sup>1</sup> Add 'P' for in-bowl water probes. (Omit if not desired).	300 watt Electric Heaters. <sup>2</sup> Specify: '312' for 12 vdc or '324' for 24 vdc. (Omit if not desired).	Element Filtration Rating. Specify one: '2' for 2 micron, '10' for 10 micron or '30' for 30 micron
<sup>1</sup> Must be used with Water Detection Kit -See Accessories Section. <sup>2</sup> Must be used with a Relay Kit -See Accessories Section.			

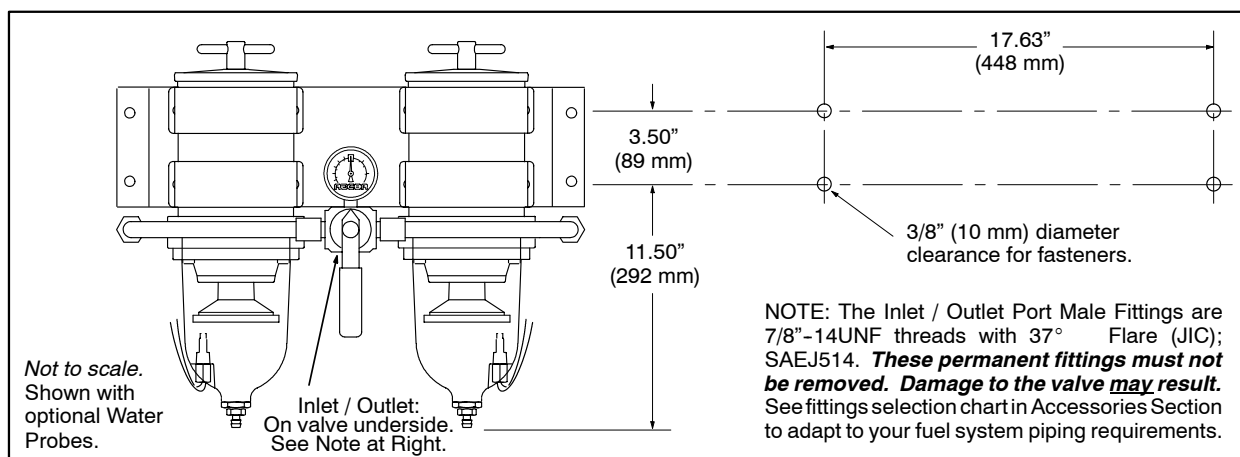


75/900FGX

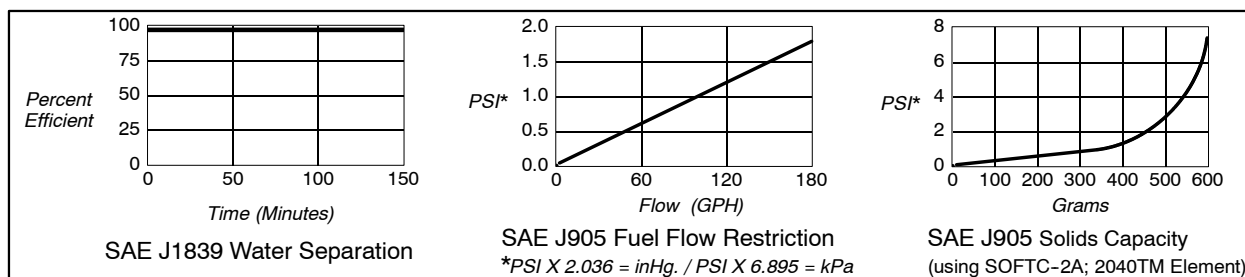
**Replacement Service Elements** -For all Model 75/900FGX Series  
SERVICE ELEMENT INCLUDES LID SEAL & T-HANDLE O-RING. Order two (2) per unit.

- 2040SM-OR** 2 Micron (Brown end caps)  
Recommended for Final /Secondary Filtration
- 2040TM-OR** 10 Micron (Blue end caps)  
Recommended for Primary or Secondary Filtration
- 2040PM-OR** 30 Micron (Red end caps)  
Recommended for Primary Filtration\* Only.  
\*A secondary/final filter is required downstream.

**Mounting Hole Pattern** -Refer to Turbine Series introduction page for filter dimensions.



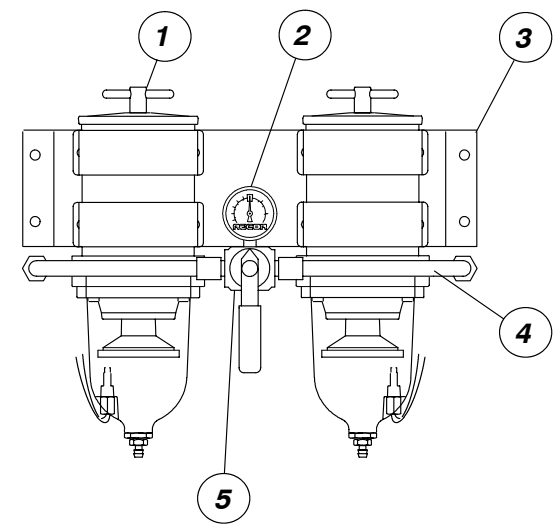
**Performance Graphs** -These results are from controlled laboratory tests. Filter results may vary by application.



# Turbine Series

## Model 75/900FGX

FIGURE 1. 75/900 Series. The circled number corresponds to the item number shown in the parts list below.



Item	Part No.	Description	Case Qty.
1	900FG	Shell. Refer to Model 900FG for a complete parts list	
2	RK19476	Gauge Assembly	1
3	RK19486	Dual unit Bracket	1
4	RK19475	Rigid Tubing Assembly	1
5	RK19473	Valve Assembly	1
	RK19506	Valve Service Kit	1
	19481	Installation Instructions, 75/900FGX	

For Fuel Port Adapter Fittings, Heater Relay Kits, Water Detection Kits, and Manifold Conversion Kits, see the Accessories Section.

For parts not listed, call Racor customer service: (800) 344-3286.

75/900FGXP Model shown

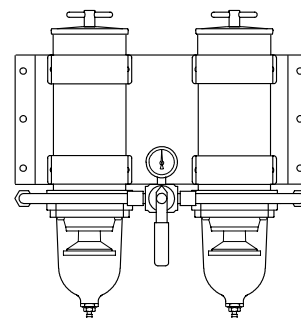
# Turbine Series

## Model 75/1000FGX

**SPECIFICATIONS** are found on Turbine Series introduction page.

**How to Order** -The example below illustrates how the part numbers are constructed.

75/1000FGX	P	312	10
<u>Basic Model</u> 360 GPH For metal bowl unit see <i>Marine Turbine Series</i> in Section Two.	<u>Water Probes.</u> <sup>1</sup> Add 'P' for in-bowl water probes. (Omit if not desired).	<u>300 watt Electric Heaters.</u> <sup>2</sup> Specify: '312' for 12 vdc or '324' for 24 vdc. (Omit if not desired).	<u>Element Filtration Rating.</u> Specify one: '2' for 2 micron, '10' for 10 micron or '30' for 30 micron
<sup>1</sup> Must be used with Water Detection Kit -See Accessories Section. <sup>2</sup> Must be used with a Relay Kit -See Accessories Section.			

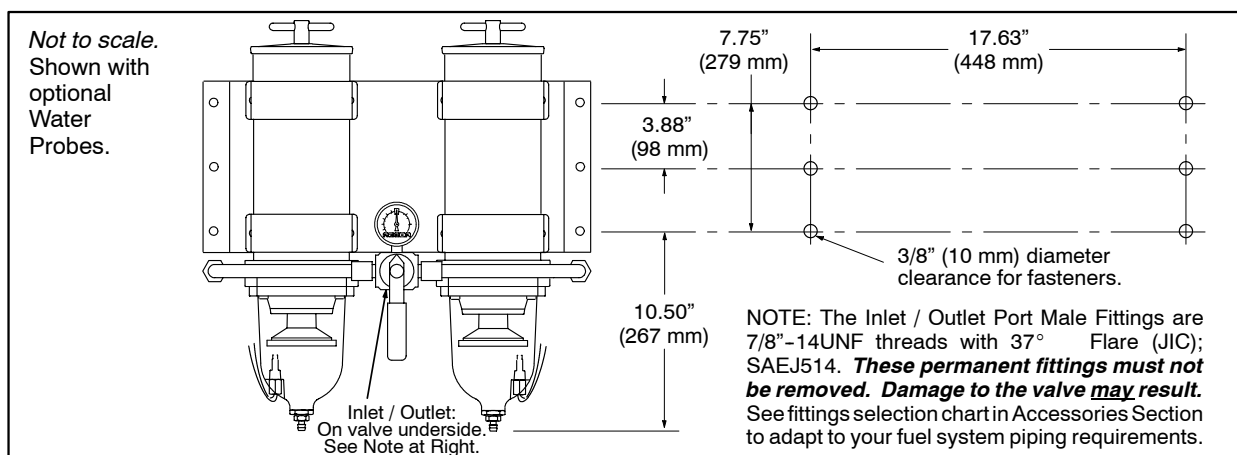


75/1000FGX

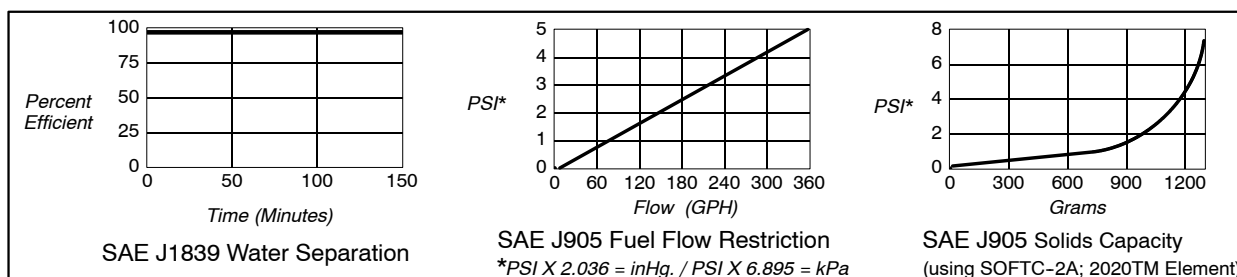
**Replacement Service Elements** -For all Model 75/1000FGX Series  
SERVICE ELEMENT INCLUDES LID SEAL & T-HANDLE O-RING. Order two (2) per unit.

- 2020SM-OR** 2 Micron (Brown end caps)  
Recommended for Final /Secondary Filtration
- 2020TM-OR** 10 Micron (Blue end caps)  
Recommended for Primary or Secondary Filtration
- 2020PM-OR** 30 Micron (Red end caps)  
Recommended for Primary Filtration\* Only.  
\*A secondary/final filter is required downstream.

**Mounting Hole Pattern** -Refer to Turbine Series introduction page for filter dimensions.



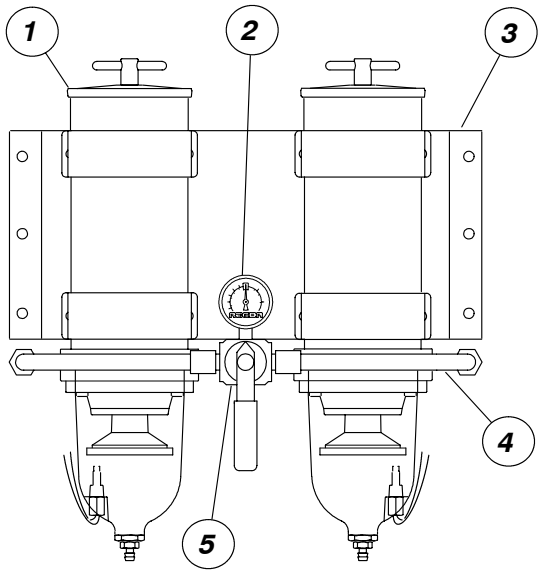
**Performance Graphs** -These results are from controlled laboratory tests. Field results may vary by application.



# Turbine Series

## Model 75/1000FGX

FIGURE 1. 75/1000 Series. The circled number corresponds to the item number shown in the parts list below.



75/1000FGXP Model shown

Item	Part No.	Description	Case Qty.
1	1000FG	Shell. Refer to Model 1000FG for a complete parts list	
2	RK19476	Gauge Assembly	1
3	RK11-1777	Dual unit Bracket	1
4	RK19475	Rigid Tubing Assembly	1
5	RK19473	Valve Assembly	1
	RK19506	Valve Service Kit	1
	19481	Installation Instructions, 75/1000FGX	

For Fuel Port Adapter Fittings, Heater Relay Kits, Water Detection Kits and Manifold Conversion Kits, see the Accessories Section.

For parts not listed, call Racor customer service: (800) 344-3286.

## FBO Filter Vessels

# FBO Filter Assembly

Racors' new FBO-10 and FBO-14 filter assemblies are designed to meet the toughest hydrocarbon refuelling conditions and provide for ease of filter change outs. The FBO Assembly can flow at 25gpm (95 lpm) or up to 75gpm (230 lpm) depending on the model, the elements installed and fuel being filtered.

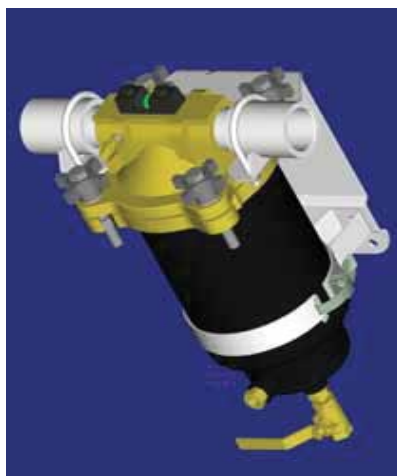
The FBO assembly can be used on mobile refuellers or installed in refuelling cabinets. The unit can also be used for diesel fuel dispensing pumps or as a primary fuel filter/water separator for large diesel engines.

The assembly features a locking ring collar, which attaches the filter housing to the aluminium die-cast filter head with four bolts. The slotted locking ring collar allows maintenance personnel to hand-loosen the four collar bolts, rotate and lower the bowl assembly for element change outs. With new element installed, simply raise the bowl and rotate into position on the locking ring and hand-tighten evenly.

The closure hardware consists of stainless steel nuts, bolts and washers with metal hand knobs for ease of maintenance – one person can easily change the filter element. No special tools are required.

The versatile FBO-10 and the FBO-14 filter assemblies have three element options to meet most field applications.

For refuelling applications the filter separator element is used. The filter separator element removes contaminants and water from jet fuel, aviation gas, diesel fuel, gasoline and hydrocarbon fuels.



### Standard Design Features

- Die-cast aluminium head
- Steel filter bowl assembly
- Powder coated components
- Locking ring collar, no clamps
- 1 1/2" NPT Inlet and Outlet
- 10 bar @ 240° F max. design pressure
- Manual drain valve
- Manual vent valve

### Options

- Mounting bracket
- Sight level gauge
- Pressure diff. indicator

### Installations

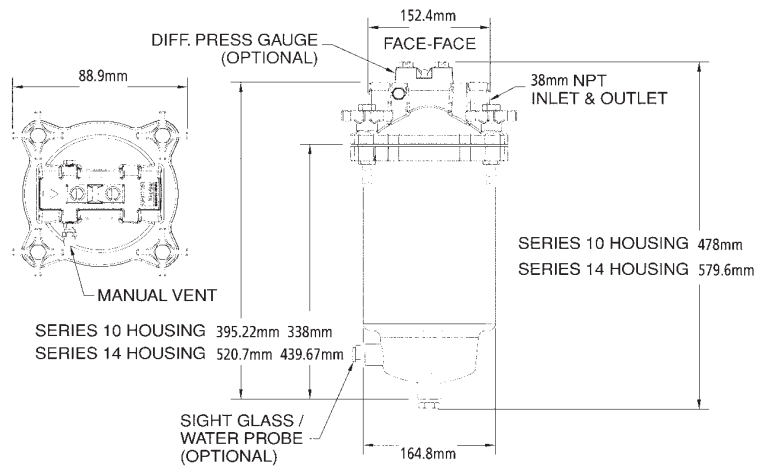
- Aviation fuel trucks
- Aviation fuelling cabinets
- Diesel fuel dispensing system
- Marine fuel docks
- Fuel systems on large diesel engines

### Applications

- Jet fuel, aviation gas, diesel fuel, gasoline, kerosene, JP4, JP5 and JP8.



## Ordering and Specification



### Element Applications

Application	Micron Rating	FB0-10 6x10 Element	FB0-14 6x14 Element
Filter Separator	1	FB0 60327	FB0 60336
	5	FB0 60328	FB0 60337
	10	FB0 60353	FB0 60356
	25	FB0 60329	FB0 60338
Micro Filter	1	FB0 60330	FB0 60339
	5	FB0 60331	FB0 60340
	10	FB0 60354	FB0 60357
	25	FB0 60332	FB0 60341
Absorptive Filter	1	FB0 60333	FB0 60342
	5	FB0 60334	FB0 60343
	10	FB0 60355	FB0 60358
	25	FB0 60335	FB0 60344



### Performance Specifications

FB0-10	Maximum Flow Rates			Clean	Change
	Diesel	Gasoline	Kerosene	Delta P	Delta P
Microfilter	18 GPM (38 LPM)	52.5 GPM (199 LPM)	35 GPM (132 LPM)	< 2 PSID	15 PSID
Filter Separator	10 GPM (38 LPM)	31.5 GPM (119 LPM)	21 GPM (79 LPM)	< 2 PSID	15 PSID

FB0-14	Diesel	Gasoline	Kerosene	Delta P	Delta P
Microfilter	25 GPM (95 LPM)	75 GPM (284 LPM)	50 GPM (189 LPM)	< 2 PSID	15 PSID
Filter Separator	15 GPM (57 LPM)	45 GPM (170 LPM)	30 GPM (114 LPM)	< 2 PSID	15 PSID

## Jet Fuel Filtration

Brukes i fyllestasjoner for fly og helikopter.  
Fyllestasjonene består av:

**Separator filtre – skiller vann fra drivstoffet.**

**Partikkel filtre – skiller ut partikler.**

**Monitor filtre – fungerer som siste sikkerhet,  
og vil blokkerer fyllingen hvis drivstoffet  
inneholder vann.**



Filter brukt i Jet og Helifuel systemer er produsert etter API standard:

**Vann separator filtre – API/IP 1581.**

**Partikkel filtre – API/IP 1590.**

**Filtre brukt i filter monitor – API/IP 1583.**

IP standarden for filtre er under kontinuerlig utvikling for å sikre at filtreringsprosessen skjer på sikker måte. Filtrene kommer i ulike størrelser, design og antall. Det er derfor viktig at filtrene installeres av godkjent personell med henblikk på sikker filtrering og operasjon av fuel systemet.

Gass som drivstoff se gassfiltrering





# 1.3

## Kjemikalie- og vannfiltrering

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1.3.3	Prosessfilterelement	227



## Prosessfiltrering

En prosessvæske har som regel et gitt krav til renhet. For å tilfredstille disse krav kan det være behov for filtrering i ulike stadier (Se kapittel 2 for mer utfyllende informasjon).

Hovedfiltrering er ofte høy effektive kvalitetsfilter som brukes for å oppnå renhetskrav til sluttproduktet. Filtrene har en avansert oppbygning og er testet iht. internasjonale standarder.

Før å øke levetid for hovedfilter og beskytte komponenter brukes forfiltrering. Dette fjerner større partikler så tidlig som mulig.

Produktene er «grove» filter eller strainere hvor en kan benytte manuelle eller automatiske filterløsninger.



### Grofilter/Strainer

Her er mediet normalt laget av stålnetting eller syntetfiber.

Stålnetting er overflate filtrering med lite nøyaktig filtreringsgrad. Fordelen med denne er at den kan rengjøres for gjenbruk, og har generelt lavt trykktap i ren tilstand. Stålnetting består av ståltråd som er vevd sammen til en duk. Avstanden mellom trådene vil gi filtreringsevnen til duken. Normalt snakker man om Mesh som er antall tråder pr. tomme, og må ikke forveksles med micron som er avstanden mellom trådene.

Syntetfiltre har normalt et tykkere lag med fibre som gir en «dybdeeffekt» som øker filtrerings evnen. Syntetfibre gir en mer nøyaktig filtreringsgrad, men kan ikke rengjøres og gir et høyere trykktap. Utførelsen av filterelement kan være stavfilter eller poser.



### Forfilter finnes i ulike utførelser:

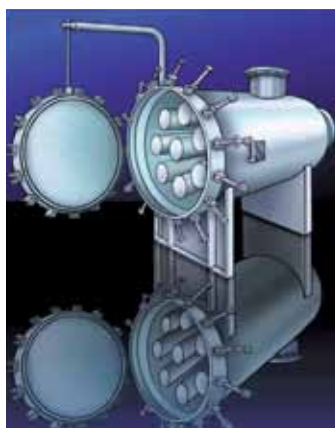
- **Bøttefilter (Basket Strainer)** Enkelt «in-line» hvor filterinnsats kan taes ut via toppflens. Forurensning ligger i filterinnsats «bøtten» og kan være av metall/ syntetfiber.
- **Badekar (Bath-Tubes)** T-formet in-line filterhus hvor «badekaret» kan tas ut via toppflens. Filterinnsats er normalt i metall.
- **Y-Strainers** Y-formet in-line filterhus som brukes på små dimensjoner. Ofte støpt filterhus og innsats i metall.
- **Flens Filter (Top-Hat, Witch hat)** Filterelement monteres rett i rørlinjen mellom to flenser. Lages i metall.

**Kontakt oss – enten det gjelder kjøp eller leie – vi finner den beste løsningen for deres behov.**

## Fin filtrering

I de prosesser hvor det settes høye krav til mediets renhet er det viktig med finfiltrering. Med dette menes absolutt filtrering hvor alle partikler i en gitt størrelse fjernes. Dette krever filterelementer med høy kvalitet og effektivitet. Man bruker ofte dybdefiltrering hvor fibrene i filtermediet ligger i flere lag og har forskjellige oppgaver.

På grunn av filterets oppbygging blir trykktapet ofte stort, og man må kompensere med å øke arealet på filtrene.





## Automatisk tilbakespylingsfilter

Med automatiske filtre menes selvrensende filtre. Dette brukes hvor det er store mengder forurensning, og lav kost på prosessmediet. Filtrene bruker prosessmediet som tilbakespyling hvilket medfører at noe av mediet dreneres ut av systemet sammen med forurensningen. Filteret starter rengjøringsprosessen når definert trykkfall eller gitt tidspunkt inntreffer. Filteret krever et minimumstrykk. Her er ikke behov for å skifte filterinnsats.



## Separation/Coalescer

I tilfeller hvor man skal skille et medium fra et annet slik som væske fra gass, brukes «Coalescer element». Et slikt element virker ved at man samler det ene mediet for så å separere dem i neste prosessstrinn.

Man kan også bruke absorberende elementer som absorberer ønsket medium i filtermediet. Eks. olje fra vann. Denne type filtre kan også brukes for å fjerne lukt og smak fra mediet.



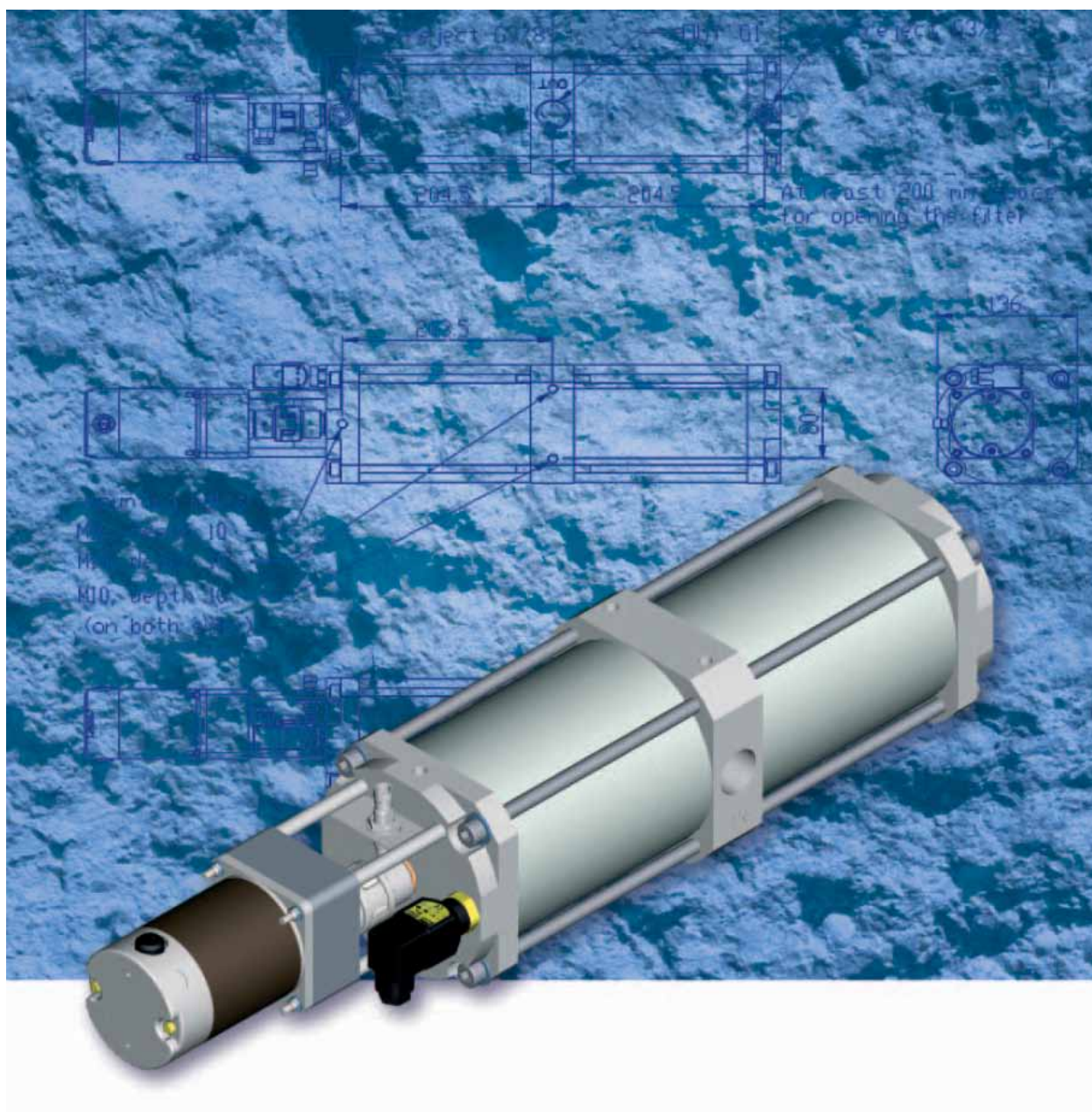
# 1.3.1

# Automatfilter

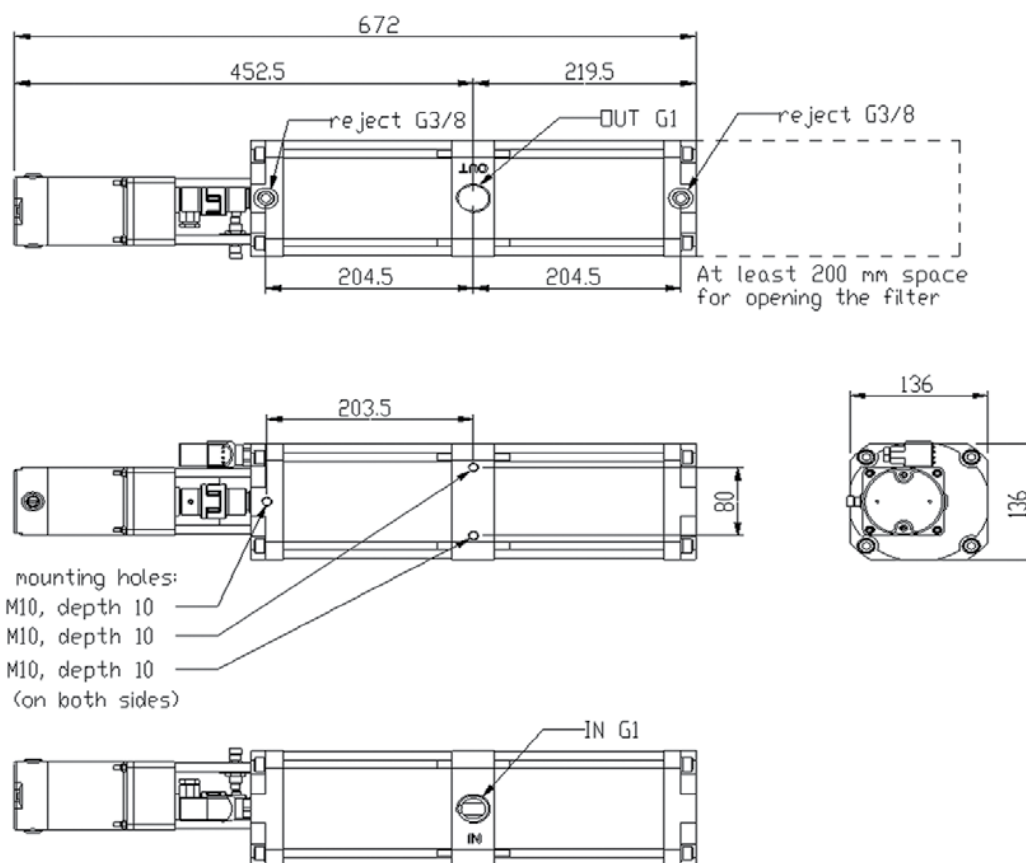




## Automatic Back Flushing Filter for Water Treatment ParTrap W



## Automatic Back Flushing Filter for Water Treatment ParTrap W



### Specification

**Flow rate:**

200 l/min (5 cSt)

**Filter fineness:**

10-500 µm

**Maximum operating pressure:**

20 bar

**Maximum temperature:**

80 °C

**Minimum operating pressure:**

2 bar

**Differential pressure:**

0,2 bar (clean element)

0,8 bar (charged element)

1,5 bar alarm

**Power supply:**

24 VDC

### Product Description

Table 1  
PTW6-  -G16-

Table 1

DEGREE OF FILTRATION	
Element type	CODE
25 µm	25
34 µm	34
50 µm	50

Table 2

CONTROL UNIT	
Options	CODE
With control unit	CU
Without control unit	-

## TwistFlow Strainer AutoFilt® TFS.

### TwistFlow Strainer AutoFilt® TFS for Process Technology.

The HYDAC AutoFilt® TwistFlow Strainer TFS is suitable for the intermittent filtration of solid particles from water or fluids similar to water. Since the filtration process is interrupted briefly during cleaning, the filter is particularly suitable for offline applications.

The fluid enters the housing tangentially. As a result of the tangential flow and the tapered housing cross-section, the fluid flows down spirally. The centrifugal forces created separate the high density particles (e.g. sand, glass, metal particles, ...) to the edge of the housing. These are then deposited in the lower part of the housing and can be cleaned out periodically.

The remaining low-density particles which are not deposited at the bottom of the housing by the centrifugal force are separated by the conical slotted tube which has a defined filtration rating.

### The cost effectiveness of the AutoFilt® TFS.

Particle contamination in operating fluids accelerates the rate of wear of system components, pipelines and valves and often leads to their premature failure. In many cases the use of TwistFlow Strainers leads to a significant increase in service life and maintenance intervals.

Costs for new purchases, maintenance and waste disposal can thus be minimized.



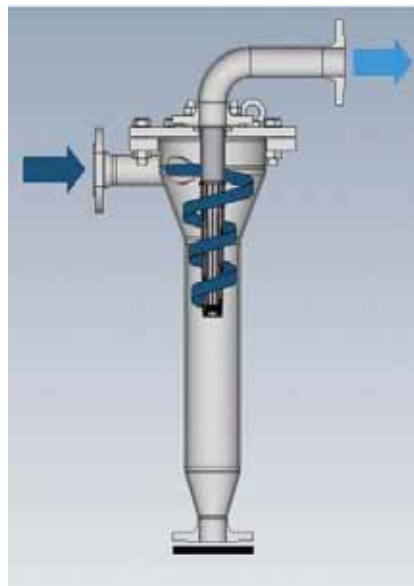


## AutoFilt® TFS – a Hybrid of Centrifugal Separator and Inline Filter.

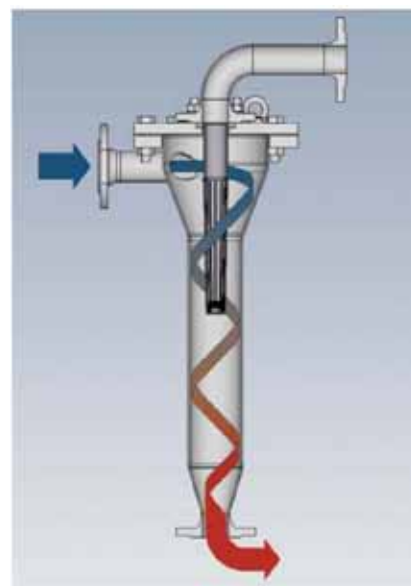
### Operation of the TwistFlow Strainer AutoFilt® TFS.

This filter is a hybrid system consisting of a centrifuge separator and an inline filter. The fluid to be cleaned enters the housing tangentially – similar to a centrifuge separator – and accelerates down as a result of the tapered housing cross-section. The resulting spiral flow with its centrifugal force carries the coarsest contamination first – its density is obviously higher than that of the fluid – to the inner wall of the housing.

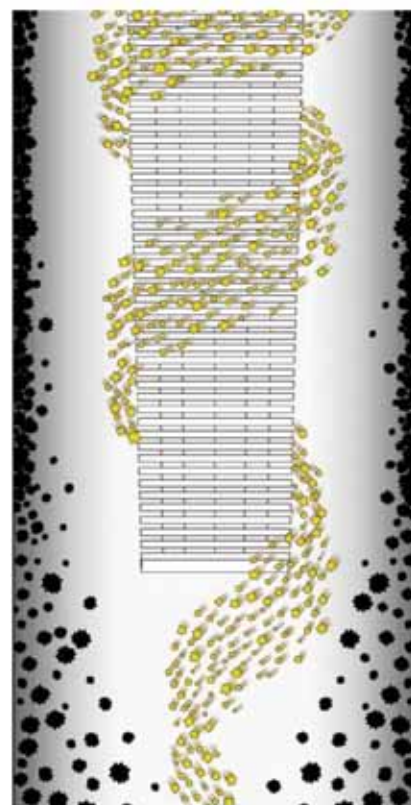
You can see how ingeniously simple perfect filtration can be from the diagrams and the fluid mechanics.



Filtration phase



Cleaning phase



**Conical slotted tube – in specific micron ratings.**

The higher density particles flowing down the housing wall by centrifugal force fall into the lower section of the filter housing and are eventually removed. The remaining particles which differ only negligibly from the fluid, are separated by a conical filter element which is located in the middle of the filter.

The conical filter element specially developed for this filter ensures optimum flow characteristics which on the one hand make continual self-cleaning of the filter possible during operation and on the other, lower the pressure drop of the whole filter, compared with a centrifugal separator of the same size.

Both the separated particles and those filtered by the element finally collect in the lower part of the housing and are discharged from the system by opening the discharge valve. During this cleaning process the entire flow of untreated water is used for a few seconds to clean the element and flush out the housing.

This short-term interruption to the filtration process makes the filter particularly suitable for offline applications but also for continuous processes which permit short-term, intermittent interruption. Depending on the application and the quantity of particles which accumulate, the contamination removal intervals can be individually adapted to the treatment process using a timer control.

**Special features of the TwistFlow Strainer AutoFilt® TFS.**

The TFS is particularly suited to high levels of contamination and large fluctuations in the solid particle content of the untreated water.

By using conical slotted tube elements with micron ratings of between 200 and 3,000 µm, a specific filtration rating and, as a result, consistent filtrate quality is always guaranteed, irrespective of fluctuations in operating pressure and flow rate.

The special flow characteristics which are the result of the element geometry and their configuration mean that the pressure drop of the filter is comparatively low over the whole operating range and in contrast to conventional centrifugal separators is only approximately 30 %.

The pre-filtration of solid particles of a higher density means that the filter surface area can take a correspondingly higher load and the filter size can be smaller comparatively speaking.

The filter elements are cleaned solely by flushing with untreated fluid. Traditional back-flushing of the filter or the use of other fluids or cleaning chemicals is not required with the TFS.

In terms of size and space the TFS is comparable with conventional separators such as gravity purification plants or sand filters.

Several TwistFlow Strainers can be integrated in almost any quantity into systems and as a result can be flexibly adapted to the required flow rates.





**TwistFlow Strainer AutoFilt® TFS – technical specifications at a glance.**

**Maximum operating pressure:**

6 bar, 10 bar or 16 bar

**Operating temperatures:**

0 to 90 °C

**Filtration ratings:**

Conical slotted tube with or without Superflush

200 to 3,000 µm

**Types of control:**

Without control or with timer control

**Material of filter housing:**

Carbon steel or stainless steel

**Material of filter elements:**

Stainless steel

**Corrosion protection – external:**

Externally 2 coats of primer  
(not necessary for stainless steel housings)

**Material of seals:**

FPM (Viton), asbestos-free gasket (C4400)

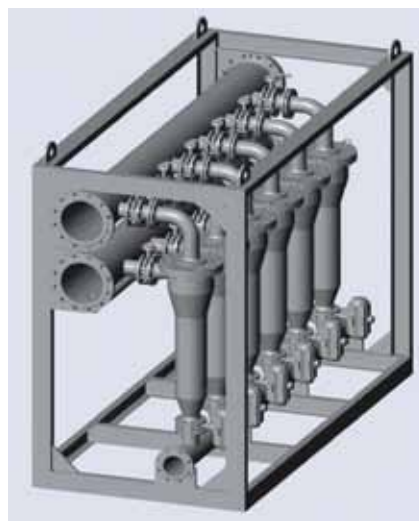
**Ports:**

DIN flanges, ANSI flanges, JIS flanges  
NPT-thread optional (TFS-1 only)

**Documentation:**

Operating and maintenance instructions  
Other models on request.

**TwistFlow Strainer AutoFilt® TFS – Skids.**



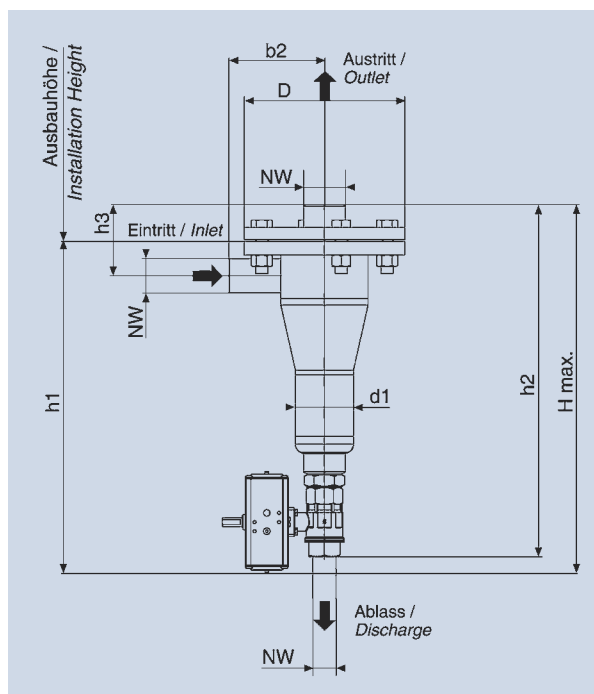
To filter higher flow rates, the TwistFlow Strainer AutoFilt® TFS can also be supplied mounted on a skid.

## The advantage of the AutoFilt® TFS ...

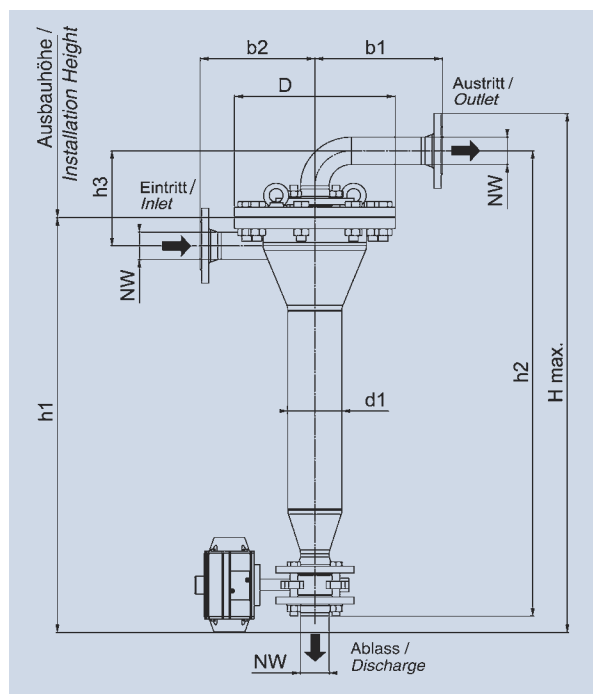
### ... and the benefits to you:

Extensive standard features for individual applications	➔	Excellent price/performance ratio
Service-friendly	➔	Low maintenance costs
Conical filter elements	➔	Low pressure drop, continual self-cleaning
Slotted tube filter elements	➔	Long service life, optimum filtration and cleaning characteristics
Individually adjustable control parameters	➔	Customized adaptation to the particular application
Flow-optimized filter	➔	High through-put with compact dimensions
Static sealing between contaminated and clean sides	➔	Guaranteed high filtrate quality, low maintenance
Variable housing isometry	➔	Reduced costs due to space-saving and simple installation
Numerous equipment options	➔	Customized adaptation to the particular application
Ready-to-operate unit	➔	Simple installation and commissioning Guaranteed reliability due to HYDAC system test
ISO 9001 certification	➔	Consistently high quality
No rotating parts	➔	No wear – no costs for replacement parts

### Dimensions of TwistFlow Strainer AutoFilt® TFS-1



### Dimensions of TwistFlow Strainer AutoFilt® TFS-2 and TFS-3



Size	NW	H max.	h1	h2	h3	b1	b2	D	d1	Install. ht.
TFS-1	1 "	480	435	460	93	–	125	210	76	350
TFS-2	50	1145	915	1027	210	270	243	340	114	500
TFS-3	100	1750	1400	1550	350	260	322	445	219	1000





### The AutoFilt® RF3 automatic back-flushing filter for process technology

Designed for continuous and maintenance-free filtration in all sectors of industry.

The AutoFilt® RF3 automatic back-flushing filter is a self-cleaning system for extracting particles from low-viscosity fluids. Its rugged construction and automatic back-flushing capability make a major contribution to operational reliability and **reduce operating and maintenance costs.**

The slotted-tube filter elements with **filtration rates of 50 to 3,000 µm** ensure highly effective separation of contaminating particles from the process medium.

Automatic cleaning starts as soon as the elements become contaminated. **The filtrate flow is not interrupted during the back-flushing procedure.**

A range of filters of different sizes allows **flow rates of up to 10,000 m³ per hour.**

**Numerous combinations of materials and equipment** as well as **individually adjustable control parameters** allow optimum adaptation of the filter to any application.

### Cost-effectiveness of the AutoFilt® RF3

Particle contamination in operating fluids accelerates the rate of wear of system components, pipelines and valves and often leads to their premature failure. In many cases, the use of automatic back-flushing filters leads to a significant increase in service life and maintenance intervals.

Costs for new purchases, maintenance and waste disposal can thus be minimized.

### AutoFilt® Type RF3 - some examples of applications

#### Power stations

Treatment of industrial water for cooling generators and filtration of sealing water to increase the service life of the turbine shaft sliding-ring seals in hydroelectric power stations.

**District heat supply**  
Protecting heat exchangers from clogging and wear.

**Chemical industry**  
Improving product quality by filtering process media.

**Steel industry**  
Protection of nozzles and pumps during high-pressure descaling, water treatment for cooling blast furnaces and rolling mills.

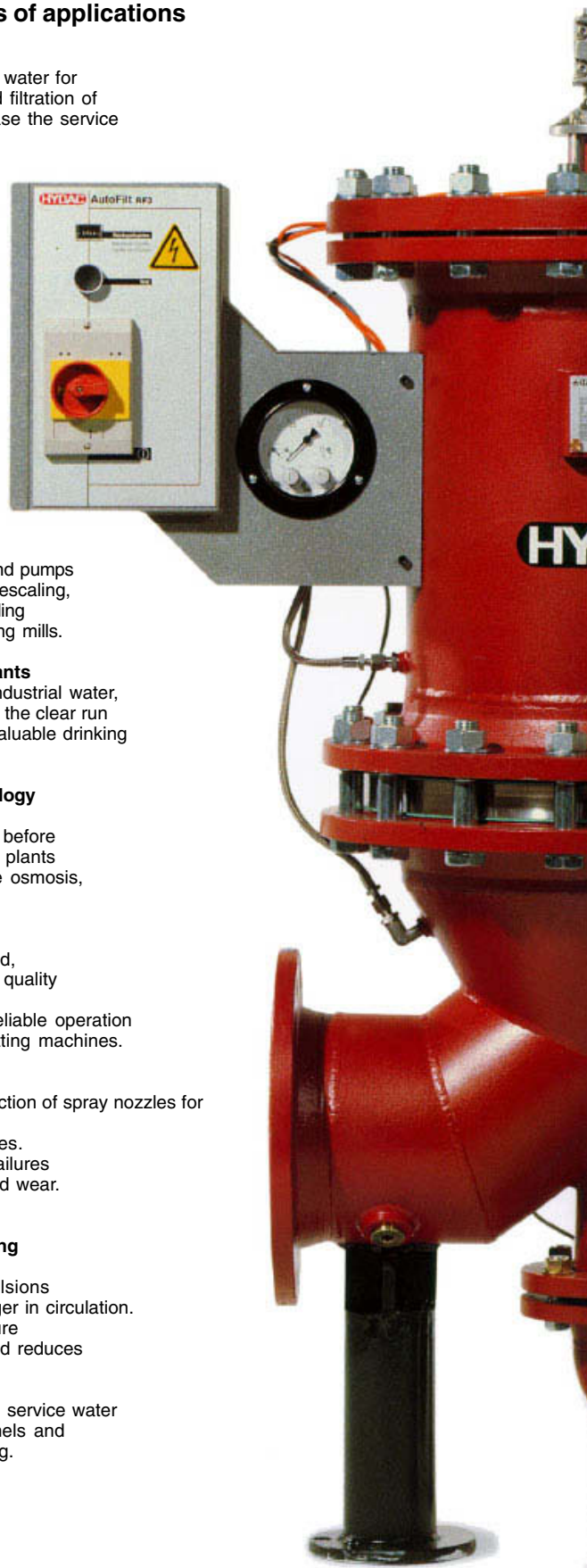
**Sewage treatment plants**  
During production of industrial water, filtration of a take-off of the clear run can be used to save valuable drinking or well water.

**Environmental technology**  
Back-flushing filters are used as pre-filters before waste-water treatment plants (UV treatment, reverse osmosis, membrane filtration...).

**Mining**  
By filtering underground, spray water of an even quality is assured. This results in more reliable operation of pumps and disc-cutting machines.

**Paper industry**  
For example: the protection of spray nozzles for the screens of paper-making machines. This results in fewer failures caused by clogging and wear.

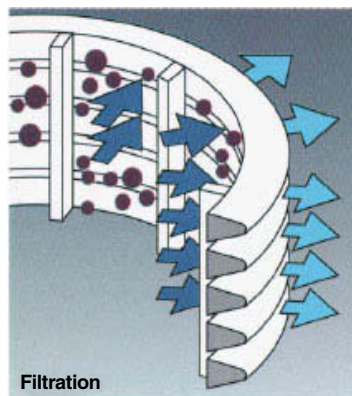
**Automotive industry**  
**Mechanical engineering**  
**Machine tools**  
Cooling lubricant emulsions can be kept much longer in circulation. This eases the pressure on the environment and reduces waste-disposal and re-purchasing costs. Filtering of cooling and service water protects cooling channels and pipelines from clogging.



## Operation of the AutoFilt® RF3

### Filtration

The fluid to be filtered flows through the slotted-tube filter elements of the back-flushing filter, passing from the inside to the outside. Contamination particles then collect on the smooth inside of the filter elements. As the level of contamination increases, the differential pressure between the contaminated and clean sides of the filter increases. When the differential pressure reaches its pre-set value, back-flushing starts automatically.



Filtration

### Triggering automatic back-flushing

Back-flushing is triggered automatically:

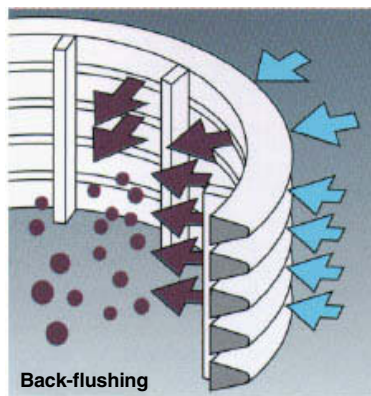
- when the triggering differential pressure is exceeded,
- by means of an adjustable timer,
- when the **TEST** key is pressed.

As soon as back-flushing has been triggered, the filter starts to regenerate the filter elements.

### Back-flushing of the filter elements - back-flushing cycle

- The geared motor turns the flushing arm under the filter elements to be cleaned.
- The back-flushing valve is opened.
- The pressure drop between filtrate side and back-flushing line flushes a small part of the filtrate backwards into the filter elements to be cleaned.

The contamination particles collected on the inside of the filter elements are loosened and flushed into the back-flushing line via the flushing arm.



Back-flushing

- As soon as the "back-flushing time per element" has elapsed, the back-flushing valve is closed. All the filter elements are thus flushed in succession. A back-flushing cycle is terminated when all the filter elements have been cleaned.

## Special features of the HYDAC AutoFilt® RF3

### Isokinetic filtering and back-flushing

The special shape and configuration of the filter elements  
- conical or conical/cylindrical - allows even flow, resulting in low pressure drop and complete cleaning of the elements. The advantage: fewer back-flushing cycles and lower loss of back-flushing fluid.

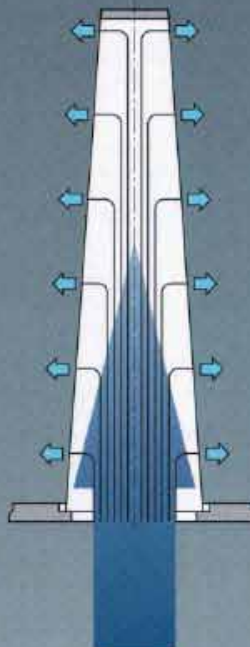
### Pulse-aided back-flushing

In control modes EPT and PT the flushing arm remains under each filter element for only a few seconds. Rapid opening of the pneumatic back-flushing valve generates a pressure surge in the openings of the filter elements that provides an additional cleaning effect to the back-flushing process.

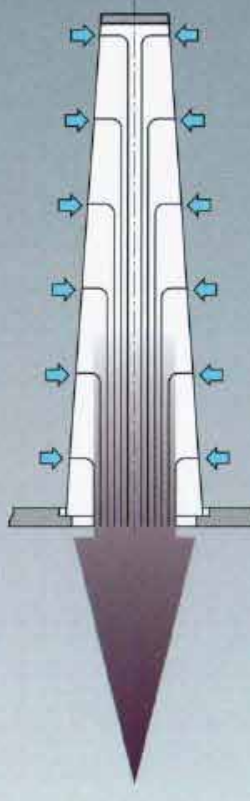
### Low back-flushing quantities due to cyclic control

The back-flushing valve opens and closes during back-flushing of each filter element.

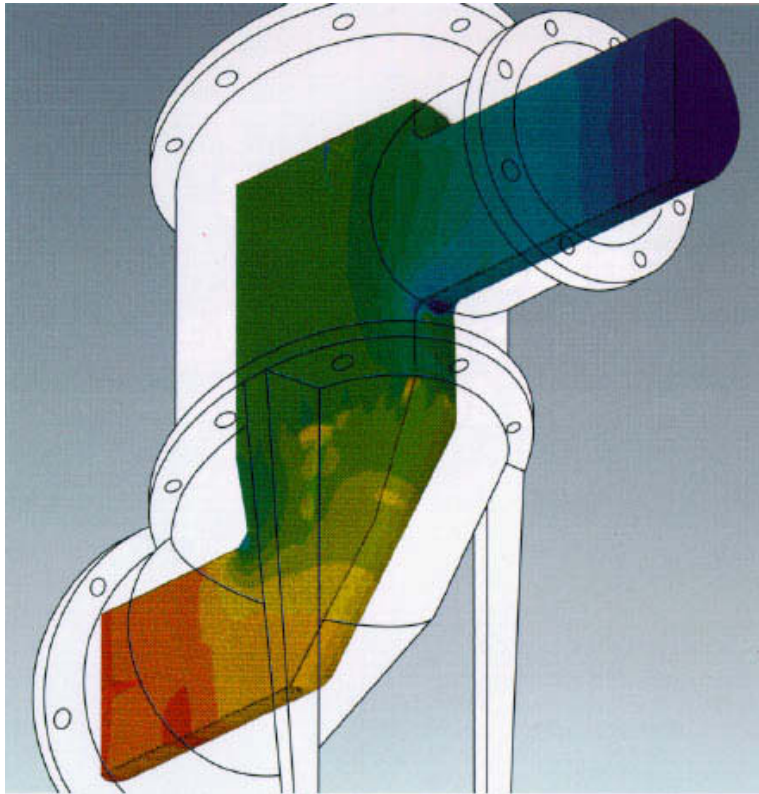
### Filtration



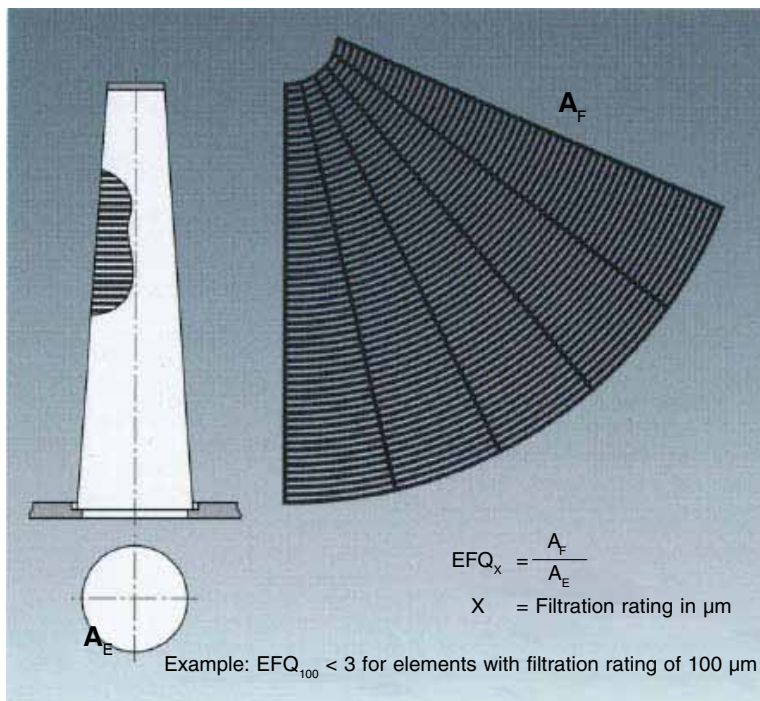
### Back-flushing







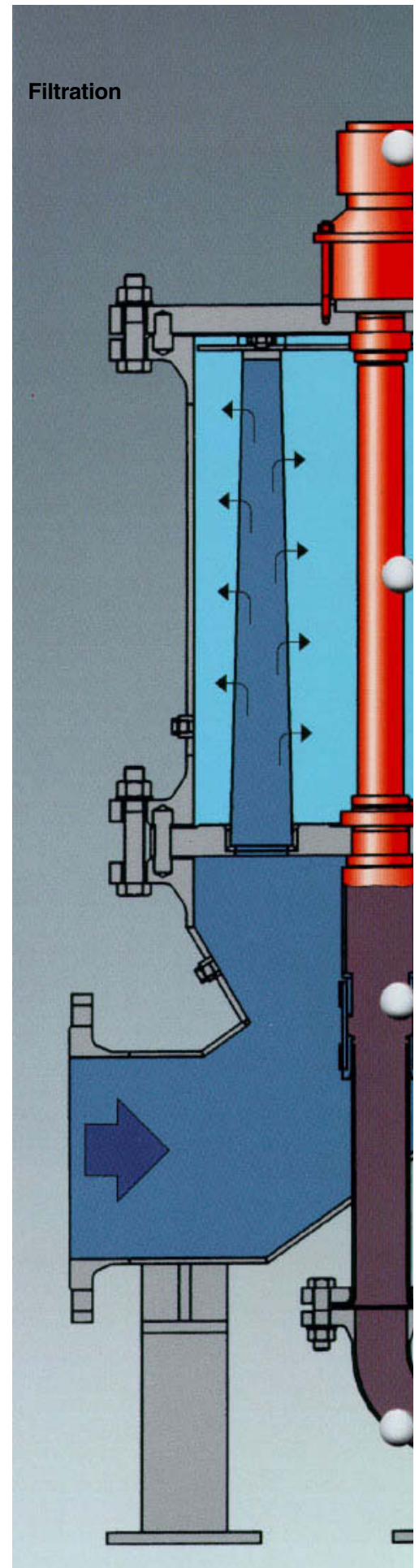
The filters are designed specially to ensure good flow conditions and enable compact dimensions with high filtration performance and low pressure drop.

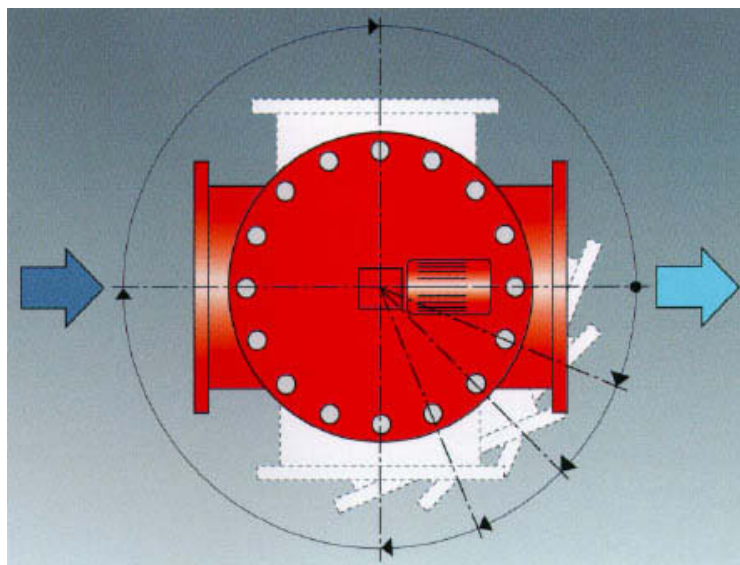
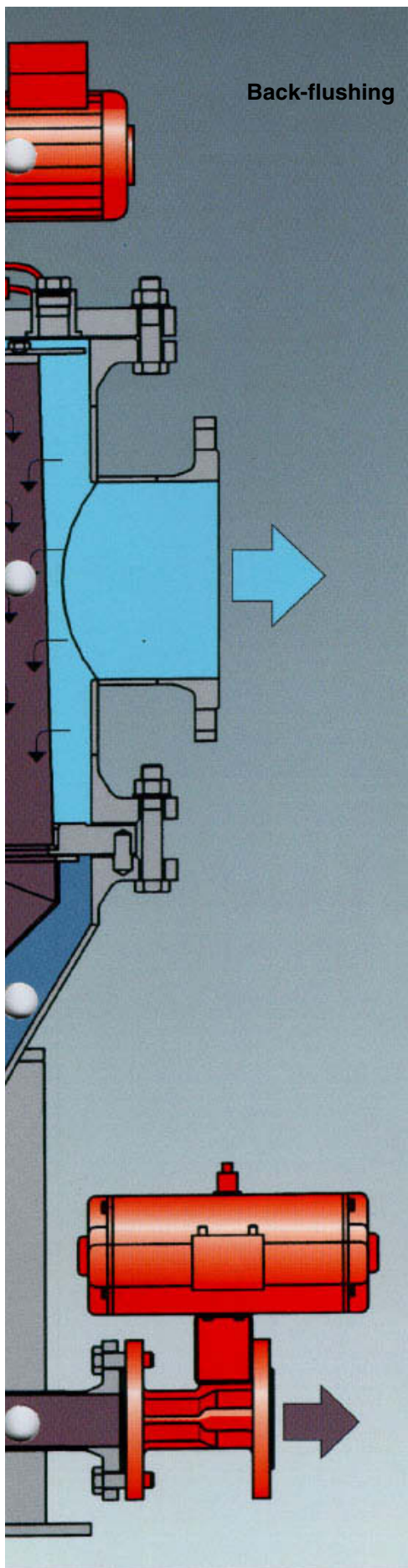


#### Element opening quotient $EFQ_x$

The element opening quotient ( $EFQ_x$ ) determines even flow without reverse flow through the filter element during filtering and back-flushing. The  $EFQ_x$  value is the ratio of the open filtration surface of an element to the cross section of the opening of the element inlet.

#### Filtration





#### Variable filter isometry

The inlet and outlet flanges as well as the back-flushing line can be configured in different positions. This means that the filter can be easily integrated into any plant layout.



#### Ready-to-operate unit

The filter control unit and differential pressure measuring line are already connected. Once the filter has been fitted to the pipework, only the auxiliary power supply needs to be connected.



#### Freely selectable control parameters

The triggering differential pressure and back-flushing time per element can be adapted to best suit the process conditions.

**Timer relays** can be used to trigger additional cleaning intervals independently of the differential pressure. The control procedure is displayed via LEDs. A second microswitch on the pressure gauge can be used for external filter monitoring.

A **static seal** between the contaminated and clean sides of the filter makes it impossible for particles to penetrate the filtrate.

# 1.3.2

# Prosessfilterhus





## Fulflo® LT Series Single Cartridge Vessels

- SAN/Polypropylene

### Fulflo® Polymeric Vessels for Water Filtration

Parker Fulflo LT Series Polymeric Vessels are an ideal economical choice for low flow industrial and potable water applications. Standard and large diameter vessels accommodate 2-1/2 and 4-1/2 inch O.D. double-open-end Fulflo cartridges and meet FDA requirements for use with potable fluids. Both 10-in and 20-in vessels, with or without pressure relief vent, are available. Installation wrenches and brackets are optional.

#### Applications

- |                 |                              |
|-----------------|------------------------------|
| ■ Potable Water | ■ Alkaline Parts Washing     |
| ■ Beverages     | ■ Compressor Condensate      |
| ■ Bottled Water | ■ Industrial Discharge Water |
| ■ DI Water      | ■ Leisure/Commercial         |
| ■ Food Products | ■ Shipping Bilge Water       |
| ■ Process Water | ■ Post Oil/Water Separator   |
|                 | ■ Polishing                  |



#### Features and Benefits

- Fulflo® polymeric vessels are available in two diameters and lengths, with or without relief vent.
- The all-polymeric, corrosion-resistant LT series vessels are economical alternatives to stainless steel vessels when high temperature and high pressure are not specified.
- All models are made of materials that meet FDA requirements.
- The LTG model vessels provide both 1 in and 1-1/2 in NPT connection in same head.
- Positive head-to-shell "stop" prevents over tightening.
- Unique o-ring design ensures effective sealing by positive tangential contact and eliminates accidental misplacement.
- LT model vessels are ideal for Fulflo bonded, pleated and wound cartridges, as well as activated carbon core models MMCT-10, MC10-2, MC20-2 and MC30-2.
- LTG model vessels are ideal for Fulflo TruBind 400 series cartridges and 4-1/2 in O.D. wound cartridges in double-open-end style.
- Optional installation wrenches accommodate faster cartridge changeout.
- Mounting brackets are available for pipe and wall installation.
- LT series vessels are tested to industry standards of Water Quality Association for burst pressure, seal integrity, and fatigue resistance.

## Specifications

### Materials of Construction:

- White talc-reinforced polypropylene head with clear styrene acrylonitrile (SAN) shell.
- Head-to-shell o-ring:  
LT model: 2-240 Buna N  
LTG model: 2-358 Buna N

### Recommended Operating Conditions:

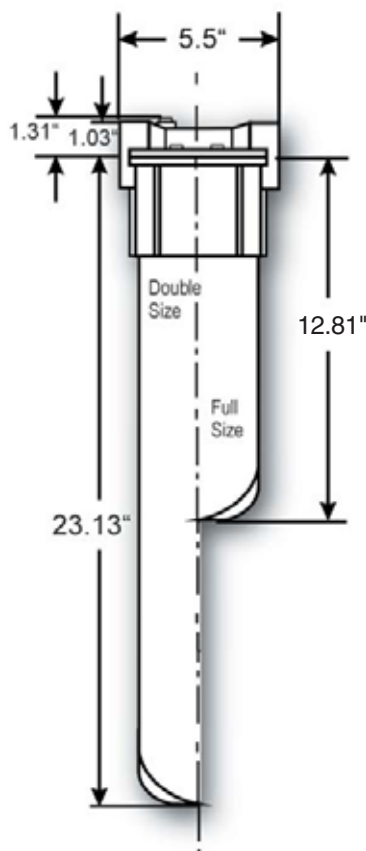
- Maximum operating temperature:  
125°F. (52°C) @ 100 psi (6.9 bar)
- Maximum operating pressure:  
LT: 150 psi (10.3 bar) @ 75°F (22°C). LTG: 125 psi. (8.6 bar) @ 75°F (22°C)
- Maximum recommended flow rate:  
LT10: 6 gpm (23 lpm)  
LT20: 12 gpm (45 lpm)  
LTG10: 10 gpm (38 lpm)  
LTG20: 20 gpm (76 lpm)

### Connection Dimensions:

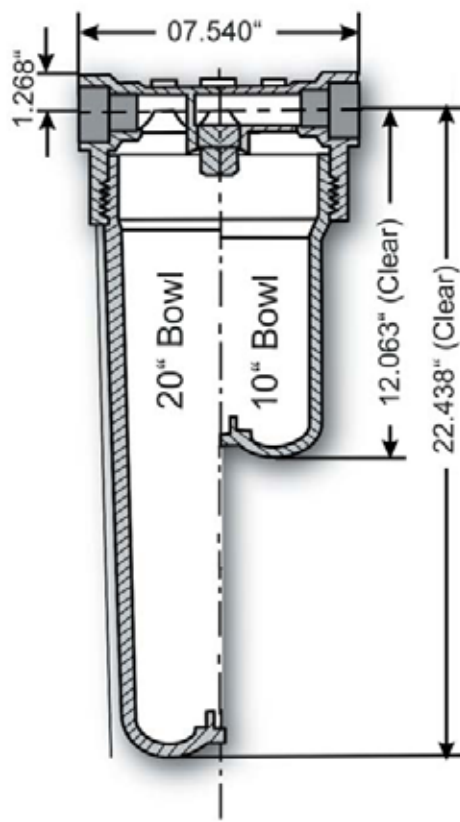
- LT: 3/4 in NPTF
- LTG: 1 and 1 1/2 in NPTF (dual connection)

### Accepts Industry Standard Cartridge Sizes (Nominal):

- Lengths:  
9 13/16 in (249 mm);  
20 in (508 mm)
- I.D. 1 1/16 in (27mm)
- O.D. LT: 2 1/2 in (64 mm)  
LTG: 4 1/2 in (114mm)



Model LT



Model LTG

### Optional Seal Configuration:

- LT: Accommodates 213 o-ring seal ("PR" cartridge code)

### Available Options for LT Model

Option	Part Number
Wrench for 10 in Shell	6880-1-005
Wrench for 20 in Shell	6880-1-010
L-Bracket—Wall Mount	0820-6010
U-Bracket—Pipe Mount	0820-6015

### Available Options for LTG Model

Option	Part Number
Wrench for 10 in Shell	6880-6000
Wrench for 20 in Shell	6880-6001
L-Bracket—Wall Mount	0820-6001

### Available Vessel Part Numbers

LT Model	LTG Model
LT10	LTG10
LT10V	LTG10V
LT20	LTG20
LT20V	LTG20V

## Ordering Information

LT	10	V
Series	Vessel Length (in)	Vent (in)
LT=Vessel for nominal 2 1/2 in O.D. cartridges	10 = 10 20 = 20	No Symbol = No Vent V = Vent

LTG=Vessel for nominal 4 1/2 in O.D. cartridges

**Process Filtration Division**

# Multi Cartridge Filter Vessels

## FH series 3, 6, 9

### Flexible Stainless Steel Filter Vessels

The Parker Filtration FH Series 3, 6 and 9 are lightweight models for the filtration of liquids. The functional concept is to offer a fully flexible assembly capable of dealing with many situations in production.

Manufactured from 316L stainless steel, these vessels meet a wide range of applications up to 10 bar g pressure, FH series 3 and 6 (3 column and 6 column) accommodate single, double, triple and quadruple length cartridges and the series 9 (9 column) will accommodate double, triple and quadruple length cartridges. For PED compliance contact Parker.

\*Fluoroelastomers are available under various registered trademarks, including Viton, (a registered trademark of DuPont) and Fluorel (a registered trademark of 3M).



### Typical Applications

- |                 |                |
|-----------------|----------------|
| ■ Potable Water | ■ Lubricants   |
| ■ Process Water | ■ Coolants     |
| ■ Edible Oils   | ■ Cutting Oils |
| ■ Coatings      | ■ Solvents     |

### Features and Benefits

- 316L stainless steel – for greater compatability.
- Bottom outlet – for easier draining and pipework location.
- Single or double open ended cartridges can be fitted.
- Flexibility – by changing the cover and a few internal parts you can adjust the filter capacity to your needs.
- Vee band – Quick release clamp – allows for quick cartridge change out.
- Cover Seal: nitrile (option:viton)
- Low level housing split – means easy cartridge change out and greater accessibility for cleaning.
- All units have an air vent, drain plug and leg assembly.
- Parker cartridges are available in a wide range of constructions and ratings to achieve desired particle removal, flow rate and compatibility.
- Ajustable Stainless Steel legs.

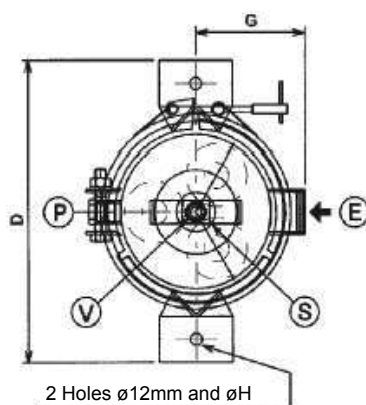


## Multi Cartridge Filter Vessels Series

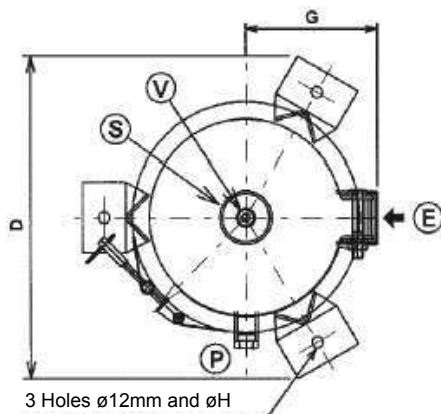
### Dimensions - Inlet/Outlet

Part No.	Cartridges	Max Flow l/min	A	B	C	D	E	F	G	H	Weight (Kg)	Volume (l)
FH310 40 SS	3X10"	60	685	251	130	325	300	168	120	274	14	11
FH320 40 SS	3X20"	125	945	251	130	325	620	168	120	274	20	18
FH330 40 SS	3X30"	183	1210	251	130	325	1145	168	120	274	26	24
FH340 40 SS	3X40"	233	1475	251	130	325	1680	168	120	274	32	30
FH610 50 SS	6X10"	200	855	266	270	367	300	219	150	327	19	18
FH620 50 SS	6X20"	250	1115	266	270	367	640	219	150	327	24	23
FH630 50 SS	6X30"	367	1380	266	270	367	1165	219	150	327	29	33
FH640 50 SS	6X40"	500	1645	266	270	367	1690	219	150	327	39	43
FH920 80 SS	9X20"	367	1125	309	246	415	650	273	187	382	30	45
FH930 80 SS	9X30"	500	1390	309	246	415	1175	273	187	382	39	60
FH940 80 SS	9X40"	700	1655	309	246	415	1700	273	187	382	48	75

Model	Ⓔ Inlet/Outlet Ⓔ	Vent Ⓔ
FH 310/320/330/340	ø 1 1/2" BSPM	ø 1/2" BSPF
FH 610/620/640/640	ø 2" or 3" BSPM	ø 1/2" BSPF
FH 920/930/940	ø 3" BSPM	ø 1/2" BSPF



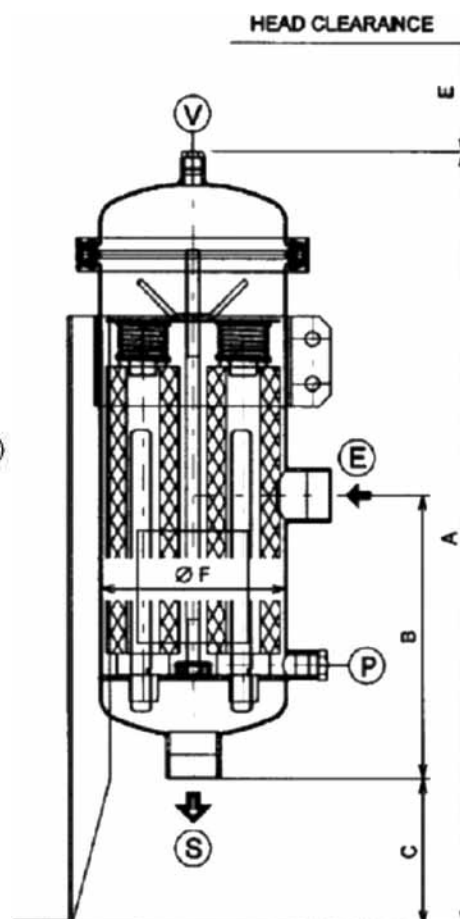
Model FH3



Model FH6 and 9

### Ordering Information

FH	3	10	40	SS
Design Series	Number Of Columns	Cartridge Length 10=10" 254mm 20=20" 508mm 30=30" 762mm 40=40" 1016mm	In/Out Connection 40=1 1/2" BSPM 50=2" BSPM 80=3" BSPM	Stainless Steel legs



## Fulflo<sup>®</sup>WH Filter Vessels

- 304 Stainless Steel
- 316L Stainless Steel

The WH cartridge filter vessels are a lightweight, economical, Non-ASME industrial / commercial design suitable for a wide variety of filtration applications. The 100% stainless steel and passivated finish provides superior corrosion resistance and an excellent appearance. The swing type closure bolts and hinged cover design (up to 21 round) make cartridge change-out quick and easy.

### Applications

- Potable Water
- Chemicals
- Process Water
- Solvents
- Edible Oils
- Pre-Reverse Osmosis
- Beverages

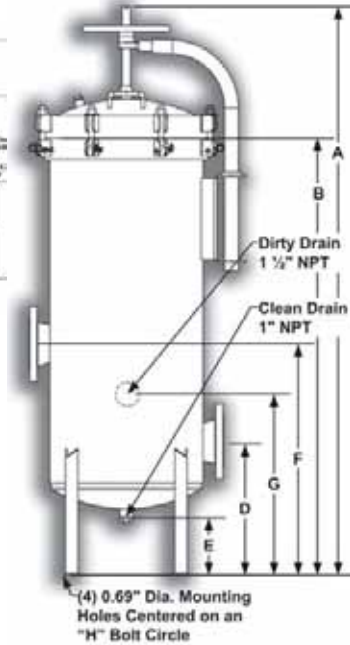
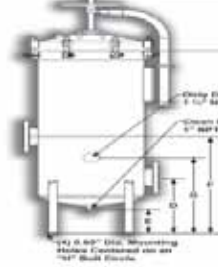
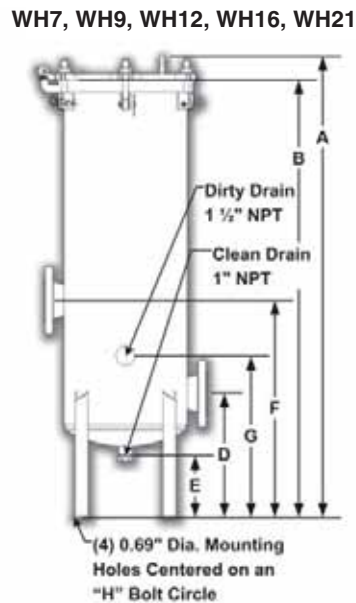
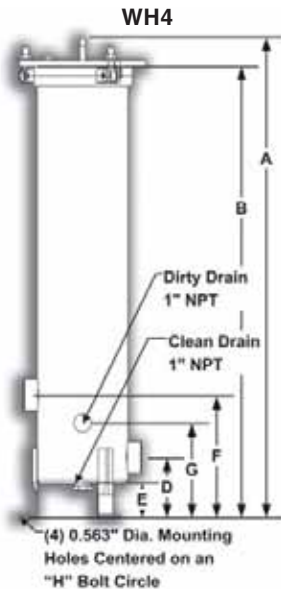


### Features and Benefits

- Hinged cover (up to 21 round) and swing bolt closure for fast, easy cartridge changeout.
- Maximum design pressure is 150 psig (10.3 bar) at 250°F (121°C) for use in a wide range of operating conditions.
- 100% stainless steel for corrosion resistance. Bolting is zinc plated carbon steel.
- Dual purpose cartridge seats for use with double open end and 2-222 O-ring single open end cartridges.
- Standard finish is passivated.
- 316 Stainless steel cartridge seats, top seat plate assemblies, and tri-fold element guides for long term use.
- Standard Buna-N o-ring with optional fluoroelastomer and EPR for wide range of applications.
- Standard features include vent, clean drain and dirty drain connections.

## Multi Cartridge Filter Vessels Series

WH29 & WH35



### Dimensions

Model	Cart Qty	Typical Flow †	A	B	C	D	E	F	G	H	Weight
WH*4S1.5T	(4) 10"	28	22.00	19.56	10.06	5.25	3.00	10.75	8.25	9.63	55
WH*4D2T	(4) 20"	56	32.06	29.63	10.06	5.25	3.00	10.75	8.25	9.63	60
WH*4T2T	(4) 30"	84	42.13	39.69	10.06	5.25	3.00	10.75	8.25	9.63	65
WH*4Q2T	(4) 40"	112	52.19	49.75	10.06	5.25	3.00	10.75	8.25	9.63	75
WH*7D2F	(7) 20"	98	42.00	39.44	14.68	14.00	7.46	21.50	18.25	9.69	125
WH*7T2F	(7) 30"	147	52.06	49.50	14.68	14.00	7.46	21.50	18.25	9.69	135
WH*7T3F	(7) 30"	147	52.06	49.50	14.74	14.00	7.46	21.50	18.25	9.69	145
WH*7Q3F	(7) 40"	196	62.13	59.56	14.74	14.00	7.46	21.50	18.25	9.69	155
WH*9T3F	(9) 30"	189	51.94	49.38	15.49	14.00	5.75	21.50	18.25	10.46	165
WH*9Q3F	(9) 40"	252	62.00	59.44	15.49	14.00	5.75	21.50	18.25	10.46	180
WH*12T3F	(12) 30"	252	51.94	49.38	16.80	14.00	7.29	21.50	18.25	11.72	175
WH*12Q3F	(12) 40"	336	62.00	59.44	16.80	14.00	7.29	21.50	18.25	11.72	195
WH*16T4F	(16) 30"	336	52.06	49.38	19.05	14.00	7.02	24.50	18.25	13.74	235
WH*16Q4F	(16) 40"	448	62.13	59.44	19.05	14.00	7.02	24.50	18.25	13.74	250
WH*21T4F	(21) 30"	441	52.06	49.38	21.30	14.00	6.29	24.50	18.25	15.76	265
WH*21Q4F	(21) 40"	588	62.13	59.44	21.30	14.00	6.29	24.50	18.25	15.76	285
WH*29T6F	(29) 30"	609	68.35	52.56	23.52	16.00	6.93	27.75	22.00	17.80	395
WH*29Q6F	(29) 40"	812	78.41	62.63	23.52	16.00	6.93	27.75	22.00	17.80	420
WH*35T6F	(35) 30"	735	68.62	52.56	25.52	16.00	6.26	27.75	22.00	19.81	445
WH*35Q6F	(35) 40"	980	78.68	62.63	25.52	16.00	6.26	27.75	22.00	19.81	470

† Actual flow rate is dependent on fluid viscosity, micron rating, contaminant, and media type. Consult media flow charts for each application. Flow rates shown do not consider inlet velocity limitations.

### Ordering Information

WH	*G	16	T	4	F	P
Design Series	Material of Construction	Number of Columns	Cartridge Length	Inlet/Outlet Size	Inlet/Outlet Type	Finish
	G = 304 SS S = 316/L SS	4 7 9 12 16 21 29 35	S = 10 in D = 20 in T = 30 in Q = 40 in	1.5 = 1.5 in 2 = 2 in 3 = 3 in 4 = 4 in 6 = 6 in	F = ANSI 150 lb. RFSO Flange T = FNPT	P = Passivate

Process Filtration Division

## Fulflo®CB Filter Vessels

- Carbon Steel
- 304 Stainless Steel

### CB Model Bag Filter Vessels are Designed for Economical Filtration of a Wide Variety of Industrial Liquids

The CB bag filter vessel series is an economical design that features the integrity of a bolted closure. The CB series is available in either carbon steel or 304 stainless steel. Both models have zinc plated closure bolts and zinc plated legs for corrosion resistance. The integral basket support provides a smooth interior for easy cleaning and bag installation. The CB is for use with either single or double length bags with flex type bag bands and can also be used with solid ring and plastic ring bags by using the optional bag sealing insert and adding an o-ring under the basket rim. The adjustable legs offer installation flexibility by allowing various inlet elevations and nozzle orientations.

#### Applications

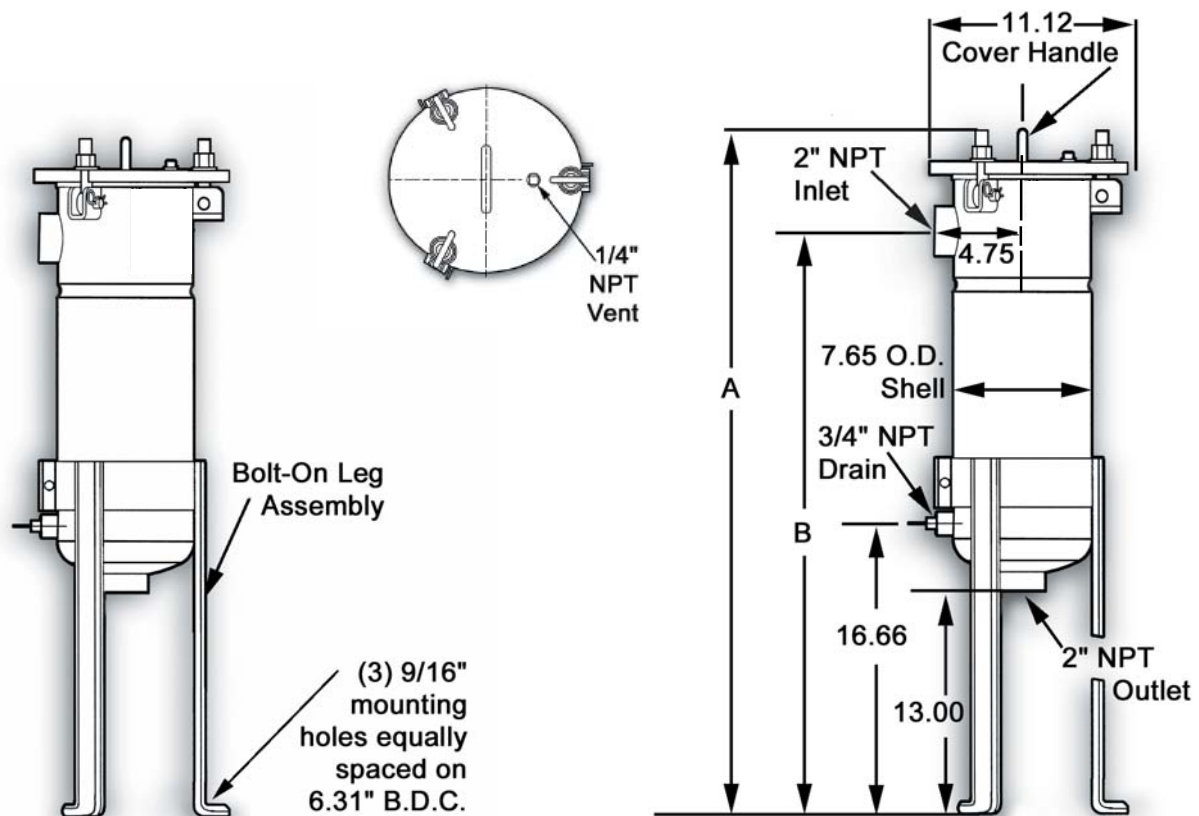
- |                 |                |
|-----------------|----------------|
| ■ Potable Water | ■ Lubricants   |
| ■ Process Water | ■ Coolants     |
| ■ Edible Oils   | ■ Cutting Oils |
| ■ Coatings      | ■ Solvents     |



#### Features and Benefits

- Single o-ring design closure assures quick, positive cover sealing.
- Swing bolts for fast, easy and safe opening and closing of cover.
- Buna-N o-ring standard with optional EPR and Viton\*.
- Maximum design pressure is 175 psi (12 bar) at 250°F\*\* (121°C).
- Good manufacturing practice industrial design.
- Threaded vent and drain connections.
- Carbon steel with zinc plated support basket or 304SS with 316SS support basket.
- Adjustable leg height.
- Side inlet allows cover to open without disconnecting piping.
- Integral basket support design provides a smooth interior for easy wash-out and cleaning.
- Pivot pin cover allows cover to remain attached when opened.
- Positive seal of "C" style flex band bags prior to closing the vessel cover.
- Optional hold-down assembly for conversion to solid ring ("G" style) and plastic ring ("Q" style) bags.
- Zinc plated closure bolts and legs for corrosion resistance.

## Bag Filter Vessels Series



### Design Specifications

Model	Bag Style	Typical Aqueous Flow+ (gpm)	Dimensions (in)		Shipping Weight (lbs)	Volume (gallons)
			A	B		
CB11-2	Single	80	40.50	33.25	65	4.3
CB12-2	Double	160	55.50	48.25	90	7.2

+ Actual flow rate is dependent on fluid viscosity, micron rating, contaminant and media type. Consult flow charts for each application.

### Ordering Information

4	CB	11	—	2
Material	Model	Media Requirement		Inlet/Outlet Size
No Symbol = Carbon Steel 4 = 304 Stainless Steel		11 = One Single Bag 12 = One Double Bag		2" NPT

## Fulflo<sup>®</sup>FB Filter Vessels

- Carbon Steel
- 304L and 316L Stainless Steel

**FB Model Bag Filter Vessels  
Designed for Economical  
Filtration of Liquids and Gases**

### **Applications**

- Potable Water
- Process Water
- Edible Oils
- Coatings
- Lubricants
- Coolants
- Cutting Oils
- Solvents

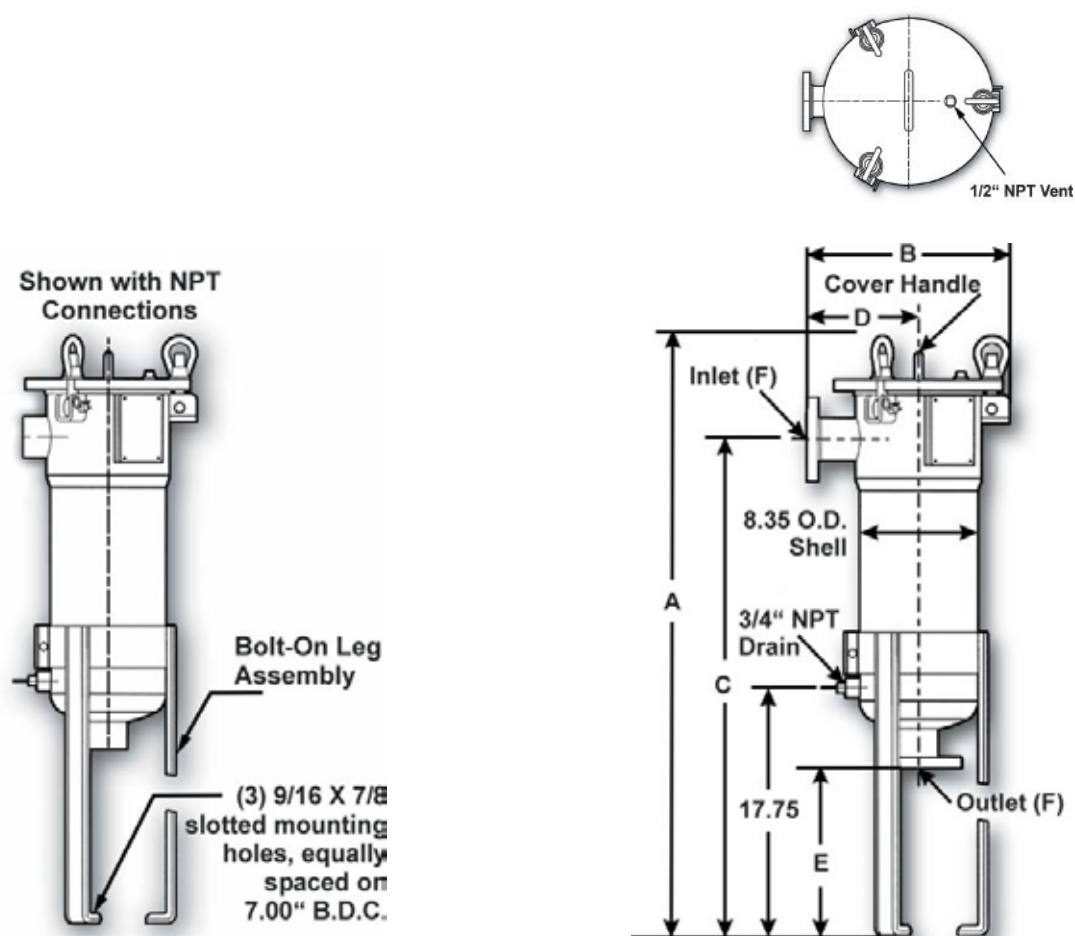


### **Features and Benefits**

- Single O-ring design closure assures quick, positive cover sealing. (O-rings are not required to seal filter bags.)
- Swing bolts with eyenuts for fast, easy opening and closing of cover.
- Buna-N O-ring standard with EPR, Viton\* and fluoropolymer available.
- Maximum design pressure is 150 psi (10.3 bar) at 450°F\*\* (232°C).
- ASME Code UM stamp is standard (U stamp is optional).
- Threaded vent and drain connections.
- Adjustable leg height. Threaded or flanged inlet and outlet.
- Side inlet; cover opens without disconnecting piping.
- Hinged cover for easy opening.
- Positive seal of "C" style bags prior to closing the vessel cover.
- Optional hold-down assembly for conversion to "G" style bag media seal available.



## Bag Filter Vessels Series



### Design Specifications

Model	Bag Style	Typical Aqueous Flow <sup>†</sup> (gpm)	Dimensions (in)			D	E	F	Shipping Weight (lbs)	Volume (gal)
			A	B	C					
FB11-2	Single	80	43.06	12.25	35.63	5.75	13.19	2NPT	90	5.4
FB11-2F	Single	80	43.06	14.50	35.63	8.00	12.00	2NPS	100	5.4
FB12-2	Double	160	53.94	12.25	46.50	5.75	13.19	2NPT	95	7.8
FB12-2F	Double	160	53.94	14.50	46.50	8.00	12.00	2NPS	105	7.8
FB12-3F	Double	160	53.94	14.50	46.50	8.00	11.75	3NPS	115	7.8

<sup>†</sup> Actual flow rate is dependent on fluid viscosity, micron rating, contaminant and media type. Consult flow charts for each application.

### Ordering Information

4L	FB	11	—	2F
Material	Model	Media Requirement		Inlet/Outlet Flange Size
No Symbol = Carbon Steel		11 = One Single Bag		2
4L = 304L Stainless Steel		12 = One Double Bag		3
6L = 316L Stainless Steel				No F = NPT



## HD Series 11/12

### Description:

The HD11 and 12 Single Bag Filter is designed for heavy duty industrial applications and gives the highest possible performance in demanding processes. Featuring investment cast components, it is the most modern, innovative and practical filter housing available on the market.

The HD series has a top entry design, ensuring a minimum head of unfiltered liquid. It features flush top fitting of filter bags, which enables easy changeout, and is therefore suitable for use with the most aggressive fluids. The filter bag is held in position by compression from the top cover ensuring a 360° positive seal.

The vessel features Stainless steel 316L heavy duty investment-cast lid, bag seating and inlet port components. The design provides a smooth fluid flow path ensuring low pressure drops. The open structure of the underside of the lid and inlet port allows all parts to be easily accessible, making the housing easy to clean. The use of investment cast components enables the housing to feature only 2 welds.

A unique feature of the HD series is the availability of inline connections (Style 1), enabling easy installation and eliminating the need for complex pipework arrangements. The style 1 configuration also requires the lowest possible installation height.

The HD series accepts traditional steel ring filter bags as well as those designed with our unique moulded Welseal tops to eliminate product bypass.

The hinged lid is held in place by four reclining swing bolts with eye nuts and features an integrated lifting handle.

As standard, HD filter housings have a stainless steel 316L construction and can have a bead blasted or chemically brightened external finish. The HD filter housing is 110°C and 10 Bar rated, and is CE Marked. Optional features and styles are available to meet all customer requirements.



## HD Series 11/12



**Features:**

- Investment cast components
- Flush top fitting filter bag
- Top entry
- In-line design available
- Large surface area perforated stainless steel basket.
- Low pressure drop
- Single gasket seal
- Permanently piped housing
- Easy to clean
- Positive bag sealing
- Standard 10 bar design (pressure tested to 1.5 times MWP)
- Vent and drain standard
- Hinged Lid
- 2 weld construction
- PED compliant

## Multi Bag Filter Housings

### Description:

Allied Filter Systems is able to offer multi bag vessels containing 3 to 24 bags for applications requiring high flow rates or a large filtration surface area. Flow is split equally through each filter bag, ensuring an even distribution of solid loading.

Multi bag vessels are available with a choice of inlet and outlet orientations and are constructed from stainless steel 304 or 316L. Some models are available in carbon steel. Standard pressure ratings are 6 Bar or 10 Bar, but higher pressure ratings are available on request. Optional features are available to meet all customer requirements.

We offer two designs with a selection of three different closure types :

### Designs :

**Dome lid.** Filter Bags are held in position by individual bayonets.

**Flat lid** with individual fluid distribution pipes (4 bag only) Filter bags are compressed by the lid, ensuring excellent 360o seal. This design reduces the amount of residual liquid in the lid, minimising product loss and possible spillage.

### Closure Types :

**Quick Closure system** allowing a fast bag changeout, with weightless feel spring assisted counterbalanced hinged lid.

**Bolted lid** with weightless feel spring assisted counterbalanced hinged lid.

**Bolted lid with Davit arm**

### Features:

3 to 24 bag vessels available giving wide range of flow capacities

2 designs with choice of 3 closure types

Choice of inlet and outlet orientations and sizes

6 or 10 Bar rated

PED compliant



### Additional Information:

The quick closure system was developed for multi bag vessels to eliminate the need for swing bolts, which considerably decreases the time required for filter bag changeout.

The system consists of a heavy duty precision engineered clamp, an opening wheel with counter screw, and a safety lock attached to the housing vent.

To change the filter bags, first the safety lock is released, simultaneously venting the filter housing. Turning the hand wheel then opens the clamp. The hinged lid can then be lifted. The spring assisted counterbalance system gives the lid a weightless feel. The filter bags can then be changed, and the reverse procedure is carried out to close the housing.

The hinged lid design minimises the installation space required compared to davit lid models.



## Bag filter accessories



### Description:

Allied Filter Systems Ltd. is able to supply a wide range of bag filter accessories to complement our range of filter housings and also those from other manufacturers.

### Features:

Restrainer **baskets** manufactured from Stainless steel 316 in all sizes and available in a variety of styles to fit all types of housings.

**O-rings.** Materials include Viton, EPDM (ethylene propylene), Buna-n (nitrile), PTFE, silicone, PTFE encapsulated viton, PTFE encapsulated silicone, neoprene. Available in all cross section types and sizes.

### Hold down devices

#### Eye nuts, clevis pins, and swing bolts

#### Eye nut key

**Displacement floats.** Displace liquid in the vessel ensuring easier bag changes and reducing product wastage.

**Bar Magnets.** Magnetic particles from process liquid adhere to the bar magnet surface. Helps to prolong filter bag lifetime by reducing surface abrasion and the amount of solid collected by the bag.

**Adjustable legs.** Stainless steel 304, 316 or carbon steel in standard or custom made lengths.

**Adaptor heads.** Available in polypropylene for open bag systems.

**Bulk loaders.** Stainless steel open filtration system to fit plastic ring bags, consisting of basket, threaded adaptor head and heavy duty clamp

**Backflush retainer cage / Bag positioner.**

**Pressure gauges and release valves.**

## RBF series 11/12

### Description:

#### Recessed Basket Single Filter Housing

The precision manufactured RBF series single bag filter housings offer non-restricted, continuous flows of upto 40m<sup>3</sup>/hr. The structure of each filter is designed to meet the required safety standards whilst ensuring durability and efficiency, for economical and cost effective filtration.

The Tri-clover top cover plate is held in place with three reclining swingbolts with eye nuts. One of the nuts acts as a hinge (to the top plate). The heavy duty restrainer basket is seated within the vessel on a heavy duty machined ring, and is constructed from high open area perforated stainless steel. The RBF series holds our complete range of filter bags and is available in stainless steel grades 304 and 316. The exterior finish is either bead blasted or chemically brightened



### Features:

Recessed bag fitting on precision manufactured seating ring, giving excellent bag sealing

Large surface area perforated stainless steel basket

Low pressure drop

Single gasket seal

Permanently piped housing

Easy to clean

Standard 10 bar design ( pressure tested to 1.5 times MWP)

Vent and drain standard

Hinged lid

PED compliant





## Polypropylene series 11/12

### Description:

Polypropylene bag filter housings are available for applications where materials such as Stainless steel are incompatible with the fluid to be processed.

The Polypropylene series is a side entry, recessed basket design filter housing. The polypropylene restrainer basket has a high open area and holds our complete range of filter bags, including our moulded **Welseal** collar.

An important feature of our design is that it has a bolted lid, which is advantageous compared to screw on lid models. Polypropylene threads can wear over time due to repeated opening and closing of a screw on lid, which ultimately damages the lid closure arrangement. Furthermore, polypropylene can creep when pressurized, which can also damage such closure systems. The bolted lid design enables our polypropylene filter bag housings to be CE Marked.

For continuous processes, we are able to offer duplexed systems with interconnecting valves, or if higher flows are required, several housings can be manifolded together.

The standard configuration is top side inlet - bottom side outlet. It has a bottom drain and top vent, and 2 inch ANSI (or DN50) flanged inlet and outlet connections. The vessel is designed to be floor mounted, although optional adjustable stainless steel legs are available. Polypropylene filter bag housings are available either 6 Bar or 10 Bar rated

### Features:

All polypropylene construction

Bolted lid design

Recessed bag fitting

Vent and drain standard

6 or 10 Bar rated

PED compliant







# 1.3.3

# Prosessfilter- element



## Fulflo<sup>®</sup> Honeycomb<sup>™</sup> Filter Cartridges Wound Depth Series

### Multipurpose Filtration Solutions With Parker's Wound Depth Cartridges

Parker Process Filtration has been a leader in filter media innovation and performance since we first invented the Honeycomb<sup>™</sup> Filter Tube over 50 years ago. Parker has one of the world's largest manufacturing plants for wound cartridges, offering superior quality along with technical, engineering and marketing support.

Effective removal ratings at nominal 90% efficiency from 100 $\mu$ m to 0.5 $\mu$ m range.

#### Applications

- |                            |                           |
|----------------------------|---------------------------|
| ■ Animal Oils              | ■ Oxidizing Agents        |
| ■ Concentrated Alkalies    | ■ Petroleum Oils          |
| ■ Dilute Acids & Alkalies  | ■ Photo Solutions         |
| ■ Mineral Acids            | ■ Potable Liquids         |
| ■ Organic Acids & Solvents | ■ Vegetable Oils          |
|                            | ■ Water                   |
|                            | ■ Prefilter for Membranes |
|                            | ■ Amines                  |



#### Features and Benefits

- A broad range of media providing excellent compatibility with a variety of organic solvents, animal, petroleum and vegetable oils.
- Optional core covers available on selected cartridges assure fiber migration control.
- Multiple length cartridges minimize change out time, eliminate spacers and are available to fit competitive filter vessels.
- One-piece extended center core option eliminates the need for cartridge guides in all competitive and Fulflo<sup>®</sup> multicartridge vessels.
- Special density and cartridge dimension configurations are available. Consult the Process Filtration Division at 1-765-482-3900 for minimum order requirement.
- Cotton, rayon, polypropylene, polyester and acetate materials are FDA listed as acceptable for potable and edible liquid contact according to CFR Title 21.
- Extended center cores are available in tinned steel, 316 stainless steel and 304 stainless steel.
- A special snap-in extender is available for polypropylene cores.
- Various O-ring and end cap options are available.

## Wound Depth Series

### Specifications

### Wound Depth Cartridge Design Function

Wound cartridges offer a gradual pressure increase during cartridge life versus surface-type media that have an abrupt flow cutoff when loaded. All wound cartridges provide true depth filtration utilizing hundreds

of tapered filtering passages of controlled size and shape. As the cartridge is wound, each layer of roving is napped to increase filtration capabilities. The result, each layer of roving contributes to true depth

filtration by trapping its share of particles. In addition, the irregular outer surface reduces surface blinding, assuring both longer cartridge life and full cartridge utilization.

### Unique Ultrafine Wound Depth Cartridges for Critical Filtration Applications

Included in the Honeycomb™ wound depth cartridge family is a unique filter cartridge specifically designed for critical filtration applications in the 0.5µm range. Where absolute 0.5µm filtration is required, the Ultrafine cartridge can be used as a prefilter, thereby significantly extending membrane life. Ultrafine cartridges

remove 99% of test contaminants with 39% distribution of particles in the 0.5µm range (AC Fine Dust). This type of filtration provides excellent protection for equipment or processes that must be protected from fine particles. Laboratory testing concluded that 90% of micro-organism contamination is removed with ultrafine filtration.

Suggested applications include:

- Prefilter for membranes
- Fine filtration of photoresists for the semiconductor industry
- Rinse water in semiconductor manufacturing
- Fine filtration for ultrasonic parts, washer solvents and other high-purity solvents
- Prefilter for industrial reverse osmosis equipment

Ultrafine cartridges are offered in Cotton (C), Rayon (E), Acetate (W), FDA Grade Polypropylene (M) and Industrial Grade Polypropylene (T). Available core options are 316 Stainless (S) or Polypropylene (A) and are available in 10, 20 and 30 in lengths. Desired combination can be ordered from cartridge symbols shown below:

Length (in)	Core Material	Cotton	Rayon	Acetate	FDA Grade Polypropylene	Industrial Grade Polypropylene
10	(S) 316 Stainless or (A) Polypropylene	C10S C10A	E10S E10A	W10S W10A	M10S M10A	T10S T10A
20	(S) 316 Stainless or (A) Polypropylene	C20S C20A	E20S E20A	W20S W20A	M20S M20A	T20S T20A
30	(S) 316 Stainless or (A) Polypropylene	C30S C30A	E30S E30A	W30S W30A	M30S M30A	T30S T30A

■ **Wound Cartridge Flow Factors for Aqueous (Water Based) Fluids (psid/gpm @ 1 cks)**

Rating (µm)	Polypropylene Polyester Nylon	Cotton Rayon Acetate	Glass
1	0.7463	2.0000	0.5000
3	0.3330	0.6250	0.4211
5	0.2381	0.3636	0.3478
10	0.1429	0.1931	0.1951
20	0.0898	0.1075	0.1096
30	0.0704	0.0855	0.0816
50	0.0595	0.0709	0.0678
75	0.0538	0.0645	0.0611
100	0.0500	0.0624	0.0590

■ **Wound Cartridge Flow Factors for Nonaqueous (Solvent or Oil Based) Fluids (psid/gpm @ 1 cks)**

Rating (µm)	Polypropylene Polyester Nylon	Cotton Rayon Acetate	Glass
1	1.0000	0.7519	0.5000
3	0.5800	0.3003	0.4211
5	0.3003	0.1949	0.3478
10	0.1299	0.1000	0.1951
20	0.0560	0.0350	0.1096
30	0.0200	0.0175	0.0816
50	0.0141	0.0130	0.0678
75	0.0120	0.0100	0.0611
100	0.0080	0.0065	0.0590

■ **Wound Cartridge Length Factors**

Length (in)	Length Factor
4	0.4
10	1.0
20	2.0
30	3.0
40	4.0

**Flow Rate and Pressure Drop Formulas:**

$$\text{Flow Rate (gpm)} = \frac{\text{Clean } \Delta P \times \text{Length Factor}}{\text{Viscosity} \times \text{Flow Factor}}$$

$$\text{Clean } \Delta P = \frac{\text{Flow Rate} \times \text{Viscosity} \times \text{Flow Factor}}{\text{Length Factor}}$$

**Notes:**

1. **Clean ΔP** is PSI differential at start.
2. **Viscosity** is centistokes.  
Use Conversion Tables for other units.
3. **Flow Factor** is ΔP/GPM at 1 cks for 10 in (or single).
4. **Length Factors** convert flow or ΔP from 10 in (single length) to required cartridge length.

■ **Wound Cartridge Nominal Micrometer Ratings**

Cartridge Designation	Rating (µm)	Compressed Air and Gas Micron Rating
8R, E8R, W8R, N8R, U8R, S8R, M8R, R8R, T8R, WC8R	100	15
10R, E10R, W10R, N10R, U10R, S10R, R10R, T10R, M10R, WC10R	75	13
11R, E11R, W11R, N11R, U11R, S11R, M11R, R11R, T11R, WC11R	50	12
12R, E12R, W12R, N12R, U12R, S12R, M12R, R12R, T12R, WC12R	40	—
13R, E13R, W13R, N13R, U13R, S13R, M13R, R13R, T13R, WC13R	30	10
15R, E15R, W15R, N15R, U15R, S15R, M15R, R15R, T15R, WC15R	20	7
17R, E17R, W17R, N17R, U17R, S17R, M17R, R17R, T17R, WC17R	15	5
19R, E19R, W19R, N19R, U19R, S19R, M19R, R19R, T19R, WC19R	10	3
21R, E21R, W21R, N21R, U21R, S21R, M21R, R21R, T21R, WC21R	7	—
23R, E23R, W23R, N23R, U23R, S23R, M23R, R23R, T23R, WC23R	5	2
27R, E27R, W27R, N27R, U27R, S27R, M27R, R27R, T27R, WC27R	3	1
39R, E39R, W39R, N39R, U39R, S39R, M39R, R39R, T39R, WC39R	1	Less than 1

## Wound Depth Series

### Specifications

#### Nominal Removal Ratings:

- @ 90% efficiency from 100µm to 0.5µm

#### Recommended Operating Conditions:

- Change Out ΔP: 30 psi (2.1 bar)
- Maximum Operating ΔP @ Ambient Temperature: 60 psi (4.1 bar)

#### Dimensions:

- 1 in ID x 2-1/2 OD
- 3 in to 50 in lengths

#### Wound Cartridge Glass Fiber Nominal Micrometer Ratings

Cartridge Designation	Liquids	Compressed Air and Gases
K5B	100-150	100+
K5R	75-100	10
K6R	40	7
K8R	30	5
K10R	20	3
K12R	15	1
K15R	10	<1
K19R	5	<1
K27R	1	<1
K39R	0.5	<1

#### Maximum Operating Temperature

Cartridge Material	Metal Core	Polypropylene Core	Glass-Filled Polypropylene
Acetate	250°F (121°C)	120°F (49°C)	180°F (82°C)
Cotton	250°F (121°C)	120°F (49°C)	—
Glass	750°F (402°C)	—	—
Nylon	275°F (135°C)	120°F (49°C)	—
Polypropylene	200°F (93°C)	120°F (49°C)†	180°F (82°C)
Polyester	275°F (135°C)	120°F (49°C)	—
Rayon	250°F (121°C)	120°F (49°C)	—

† 200°F (93°C) if ΔP is limited

### Ordering Information

E	13 R	10	2	A	V	L	TC	N
Cartridge Code	Density Micron Number Rating (um)	Nominal Cartridge Length (in)	Nominal Cartridge Diameter	Core Material	Core Cover Material	End Treatment	End Cap Options	Seal Options
No Symbol = Cotton (FDA) E =	8R 100	3 = 3	No Symbol =	No Symbol = Tinned Steel	No Symbol =	No Symbol =	TC = 222 Closed	N = Buna
FDA Grade Rayon	10R 75	4 = 4	1 in ID x 2-1/2 in OD	A = Polypropylene	No Cover	No Treatment	TF = 222 Fin	E = EPR
K = Baked Glass Fiber	11R 50	6 = 6	45 = 1 in ID x 4-1/2 in OD (9-7/8" and 20" length only)	A3 = Glass-Filled Polypropylene	V = Nonwoven Paper	L = Lacquer	SC = 226 Closed	S = Silicone
M = FDA Grade Polypropylene	12R 40	7 = 7	2 = 1 in ID x 2-3/4 in OD	G = 304 Stainless Steel	W = Nonwoven Paper	E = Acetone	SF = 226 Fin	V = Viton*
N = Nylon	13R 30	8 = 8	Special Dimensions Available	S = 316 Stainless Steel	Y = Polypropylene	D = Sodium Silicate	XA = Poly Extender	None = DOE
R = Rayon	15R 20	9-4 = 9-7/8		SR = Passivated 316 SS (Special Order)		M = Singed	XC = Tinned Steel Extender	
S = Polyester (FDA)	17R 15	10 = 10					GXC = 304 SS Extender	
T = Industrial Grade Polypropylene	19R 10	19-4 = 19-1/2					SXC = 316 SS Extender	
U = Natural Cotton	21R 7	29-4 = 29-1/4					None=DOE	
UK = Unbaked Glass Fiber	23R 5	30 = 30						
W = Acetate (FDA)	27R 3	39-4 = 39						
WC = White Cotton	39R 1	40 = 40						

**Special Order**  
50 = 50



## Fulflo<sup>®</sup> SWC Filter Cartridges Wound Depth Series

### Economical Filtration Solutions With String Wound Depth Cartridges

Parker Process Filtration's SWC Filter cartridge offers a wide range of fibers and core materials. Roving is wound onto a center core for strength. The diagonal pattern of the media forms a tight, interlocking weave. Parker Process Filtration has one of the world's largest manufacturing plants for wound cartridges, offering superior quality along with technical, engineering and marketing support.

Nominal removal ratings from 1µm to 100µm are available.

#### Applications

- |                            |                                |
|----------------------------|--------------------------------|
| ■ Animal Oils              | ■ Oxidizing Agents             |
| ■ Concentrated Alkalies    | ■ Petroleum Oils               |
| ■ Dilute Acids & Alkalies  | ■ Potable Liquids              |
| ■ Organic Acids & Solvents | ■ Vegetable Oils               |
| ■ Mineral Acids            | ■ Water                        |
|                            | ■ Prefilter for R.O. Membranes |



#### Features and Benefits

- SWC's provide excellent compatibility with a variety of organic solvents, animal, petroleum and vegetable oils.
- Optional core covers available to assure fiber migration control.
- Multiple length cartridges minimize change out time, eliminate spacers and are available to fit competitive filter vessels.
- Cotton and polypropylene materials are FDA listed as acceptable for potable and edible liquid contact according to CFR Title 21.
- Continuous strand roving geometry provides performance consistency.
- Extended center core option eliminates the need for cartridge guides in competitive and Fulflo multicartridge vessels.
- One piece extended length center cores are available in tinned steel, 316 stainless steel and 304 stainless steel.
- A special snap-in extender is available for polypropylene cores.
- FDA grade polypropylene (DOE only) certified to ANSI/NSF61 standard for contact with drinking water components.

## Wound Depth Series

### Specifications

#### Nominal Removal Ratings:

- 90% efficiency from 100µm to 1µm

#### Materials of Construction:

- Polypropylene
- Cotton

#### Dimensions:

- 1 in ID x 2-3/8 in OD
- 10, 20, 30 and 40 in lengths

#### Maximum Recommended

#### Operating Conditions:

##### Temperature:

Polypropylene: 200°F (93°C) with tinned steel or stainless steel cores;  
120°F (49°C) with polypropylene cores;

Cotton: 250°F (121°C) with tinned steel or stainless steel cores;  
120°F (49°C) with polypropylene cores.

- Change Out ΔP: 30 psi (2.1 bar)

- ΔP @ Ambient Temperature: 60 psi (4.1 bar)

- Flow Rate: 10 gpm (38 lpm) per 10 in length

#### SWC Length Factors

Length (in)	Length Factor
10	1.0
20	2.0
30	3.0
40	4.0

#### SWC Flow Factors (psid/gpm @ 1 cks)

Rating (µm)	Cotton	All Synthetics
1	2.00	0.75
3	0.63	0.33
5	0.36	0.24
10	0.19	0.14
15	0.16	0.12
20	0.11	0.09
25	0.10	0.08
30	0.09	0.07
50	0.07	0.06
75	0.06	0.05
100	0.06	0.05

#### Flow Rate and Pressure Drop Formulae:

$$\text{Flow Rate (gpm)} = \frac{\text{Clean } \Delta P \times \text{Length Factor}}{\text{Viscosity} \times \text{Flow Factor}}$$

$$\text{Clean } \Delta P = \frac{\text{Flow Rate} \times \text{Viscosity} \times \text{Flow Factor}}{\text{Length Factor}}$$

#### Notes:

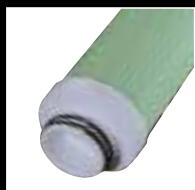
- Clean ΔP** is PSI differential at start.
- Viscosity** is centistokes.  
Use Conversion Tables for other units.
- Flow Factor** is ΔP/GPM at 1 cks for 10 in (or single).
- Length Factors** convert flow or ΔP from 10 in (single length) to required cartridge length.

### Ordering Information

SWC	10 Nominal Micron Ratings	C Media	10 Nominal Length (in)	A Core Material	V Core Cover Material	XA Core Extender	TIS Packaging Options
SWC = String Wound Cartridge	1 3 5 10 15 20 25 30 50 75 100	C = Cotton (FDA Grade) L = Polypropylene (Utility Grade) M = Polypropylene (FDA grade) T = Polypropylene (Industrial Grade) U = Cotton, Natural WC = White Cotton (Industrial Grade)	9-4 = 9-7/8 10 = 10 19-4 = 19-1/2 20 = 20 29-4 = 29-1/4 30 = 30-3/16 39 = 39 40 = 40-3/16	A = Polypropylene G = 304 Stainless Steel S = 316 Stainless Steel None = Tinned Steel	No Symbol = No Cover V = Non-Woven Polyester Y = Polypropylene	No symbol = None - OB = Std. Open End/ Polypro Spring Closed End XC = Integral (Tinned Steel 304SS or 316SS) XA = Snap-in (Polypropylene) - XB = Ext. Core Open End/Polypro Spring Closed End	Z = Individual Poly Bag TIS = Tissue Wrap

## PLEATFLOW N

### PLEATFLOW N



- Optimised for oil field applications
- Beta 5000 rated
- Glass fibre, polypropylene or cellulose media
- 2, 5, 10, 20 and 50 micron absolute ratings available

PLEATFLOW cartridges are manufactured in accordance with our ISO9001 / 2000 QA system and utilise high performance filter media which is routinely evaluated for porosity, retention efficiency, dirt capacity and pressure loss to provide high performance in terms of cost per barrel filtered.

Cartridges are offered in industry standard lengths and with end fittings to suit existing filter housings.

available formats



### Technical Specifications

#### Materials of Construction

Filter Media Options : Glass Fibre  
Polypropylene  
Cellulose  
Inner Support Core : Polypropylene  
Nylon / Stainless Steel  
Standard o-rings/gaskets : EPDM, viton, nitrile

#### Cartridge Efficiency

Published Rating (micron)	Nominal Efficiency (90%)	Absolute Efficiency (99.98%)
2	0.5	2
5	1	5
10	3	10
20	10	20
35	15	35
50	25	50

#### Applications

Injection water  
Waterflow and wastewater  
Workover  
Completion and stimulation fluids  
Brines  
Acids  
Methanol  
Glycols  
Amines  
Diesel

PLEATFLOW cartridges can be configured to be compatible to most oilfield chemicals. If in doubt conduct soak test or contact technical services.

#### Maximum Operating Conditions

	PP Hardware	Nylon / SS Hardware
Max Temp	65 °C (149 °F)	120 °C (248 °F)
Max Dp (bar)	4 bar (58 psi) at 50 °C (122 °F)	
Recommended Max Dp	2.5 bar (36 psi) at 50 °C (122 °F)	



## Fulflo® TruBind™ Standard Series

### Effective and Economical Hydrocarbon Removal with Enhanced Polymeric Absorbent Cartridges

Parker Fulflo® TruBind absorbent cartridges utilize a modified polymeric absorbent that economically and effectively reduces trace hydrocarbon contamination in aqueous fluids. The enhanced polymer, configured in a radial-flow-design cartridge, provides maximum utilization of available surface area. This product can be used alone or as an enhancement to other systems. Whether process fluid reclamation or meeting disposal requirements is the goal, TruBind can solve many demanding hydrocarbon-contaminated aqueous fluid problems.

#### Applications

- |                                       |   |
|---------------------------------------|---|
| ■ Water Soluble Machine Tool Coolants | ■ Leisure/Commercial Shipping Bilge Water                             |
| ■ Alkaline Parts Washing              | ■ Surface Water Runoff (Truck stops, airports, auto service stations) |
| ■ Industrial Discharge Water          | ■ Gas & Oil Facility Wastewater                                       |
| ■ Produced Water Disposal             | ■ Car & Truck Wash Water  |
| ■ Injection Molding Cooling Water     | ■ Compressor Condensate   |
| ■ E-Coat Paint                        | ■ Post Oil/Water Separator Polishing                                  |
| ■ Pre R.O. Membrane                   | ■ Floor Scrubbing Waste Water   |
| ■ Tanker Ballast Water                | ■ Pre Carbon Bed  |
| ■ Aerosol Mists                       |   |
| ■ Plating Bath                        |   |



#### Features and Benefits

- |   |   |
|---|---|
| ■ Increases machine tool life when installed at point-of-use.               | ■ Radial flow design of cartridge allows maximum flow with minimal pressure drop. |
| ■ Increases working life of valuable process fluids.                        | ■ High integrity construction withstands harsh process environment.               |
| ■ Reduces hydrocarbon levels to meet EPA discharge regulations.             | ■ A variety of cartridge sizes and end cap options increase housing selection.    |
| ■ Absorbed hydrocarbon is chemically bound by polymer and is not leachable. | ■ TruBind cartridges are completely incinerable.                                  |
| ■ Absorbent polymer is enhanced to maximize utilization of surface area.    | ■ Parker's TQM system assures consistent and reliable performance.                |

**Process Filtration Division**

## Absorbent Series

### Technology

Unlike competitive technologies in which hydrocarbons are removed through surface adsorption onto the medium, TruBind cartridges utilize a proprietary modified polymer that both absorbs and binds the hydrocarbon molecules into its interior matrices. The affinity of the polymeric absorbent for hydrocarbon contaminant is so great that accelerated testing by the Toxic Characteristics Leachate Procedure (TCLP) indicated the effluent hydrocarbon level in water to be below current and proposed EPA

limits. The modified polymer was formulated to control the speed of hydrocarbon absorption by eliminating the potential for skin formation at the polymer/hydrocarbon interface. Consequently this polymer, when incorporated into a radial-flow-design cartridge, insures maximum utilization of surface area. The nature of the polymer makes it an effective absorbent of free, emulsified and dissolved oils, synthetic lubricants, grease and a multitude of organic solvents.

### Performance

TruBind absorbent cartridge efficiency depends upon the residence time of the fluid within the cartridge, which is a function of the volumetric flow rate.

1. Hydrocarbon Removal Efficiency: At an equivalent flow rate of 1.0 gpm per 10-inch cartridge the TruBind cartridge typically reduces trace hydrocarbon contaminant in excess of 95% in single pass mode. This efficiency level can be maintained only to a net differential pressure of 10 psi. Series or multipass filtration can virtually eliminate hydrocarbon contamination.

2. Hydrocarbon Absorbent Capacity: The

TruBind cartridge medium has the potential to remove up to 250 grams (approximately one-half pint) of low density hydrocarbon contaminant. On this basis, the table below provides expected life data in hours or gallons at several trace contaminant levels based on a 1.0 gpm flow rate per 10-inch cartridge. Absorbent capacity will decrease as density of hydrocarbon increases.

3. Flow Rate Capability: A maximum flow rate of 1.0 gpm per 10-inch length cartridge is recommended for the most effective removal of trace hydrocarbon contaminant.

Hydrocarbon Concentration (ppm)	Hydrocarbon Concentration (% by Weight)	Hydrocarbon Removal per Minute (grams)	Estimated Life in Hours	Gallons Fluid Treated	Estimated Cost per Gallon of Treated Fluid
10	.001	0.04	106.0	6,330	\$ .003
100	.01	0.40	10.6	633	\$ .03
1,000	.1	4.00	1.1	63	\$ .30

### Ordering Information

TBC	10	A	TC	A
Cartridge Series	Cartridge Length	Support Core	Cartridge Seal Design	End Seal Options
TruBind Absorbent Cartridge	Code in mm	A = Standard Wall Polypropylene Core	DO= Double-Open-End (gasket seal) TC = Single-Open-End (222 O-ring seal)	A = Polyolefin Foam Gasket (standard for "DO" seal design) N = Buna-N O-Ring (standard for "TC" seal design)
Example: TBC10A-TC-N	9 9-5/8 244 10 9-13/16 249 19 19-5/8 498 20 19-15/16 506 29 29-1/4 743 30 30-1/16 764 39 39 991 40 40 1016			

### Specifications

#### Materials of Construction:

- Absorbent: Proprietary modified polymer
- Support Construction: 100% polyolefin
- Seal Material: Gasket (Polyethylene Foam); 222 O-Ring (Buna-N)

#### Cartridge Dimensions (nominal)

- Lengths: 10-40 in (249mm-1016mm)
- Outside Diameter: 2-1/2 in (63.5 mm)
- Inside Diameter: 1-1/16 in (27 mm)

#### Maximum Recommended Operating Conditions:

- Temperature: 150°F (65°C) @20 psid (1.4 bar); 180°F (82°C) @10 psid (0.7 bar)
- Pressure: 60 psid (4.1 bar) @ 75°F (24°C)
- Flow Rate: 1.0 gpm per 10-inch cartridge
- Changeout Pressure Drop (net): 10 psi (0.7 bar)
- Flow Factor: 0.03 psid per 1 gpm at 1 cks viscosity per 10 in cartridge

#### BioSafety:

- The TruBind cartridge is classified as non-hazardous and incinerable. Disposal must be dictated by local regulations pertaining to the absorbed contaminant.

Consult factory for product configurations

**Process Filtration Division**

## Fulflo<sup>®</sup> Basket Strainers

### • 316 Stainless Steel

## Filter Bag and Media Strainer Series

### **Effective Large Particle Removal With Fulflo<sup>®</sup> Basket Strainers**

Fulflo basket strainers effectively remove large-sized particles ranging from US Mesh 20 to 100 (840µm to 149µm) from liquids with viscosities of up to 15,000 SSU. Parker basket strainers are useful as prefilters for the collection of gross contaminants.

#### **Applications**

- |                   |                         |
|-------------------|-------------------------|
| ■ Discharge Water | ■ Paints                |
| ■ Process Water   | ■ Resins                |
| ■ Coolants        | ■ Solvents              |
| ■ Cutting Oils    | ■ Bulk Chemicals        |
| ■ Inks            | ■ Parts Washing Systems |
| ■ Lubricants      | ■ Adhesives             |



#### **Features and Benefits**

- Available in two standard sizes to fit all Fulflo bag filter vessels.
- Each strainer constructed of 316 stainless steel and features a permanent handle for easy installation, removal and cleaning.
- Fulflo strainer vessels designed for maximum operating pressures of up to 150 psi (9.0 bar) and high flow rates.
- Cleanable permanent media.
- Optional ratings available down to 550 mesh (25 micron)
- Five standard ratings available from 20 to 100 mesh.





# Fulflo<sup>®</sup> Filter Bags

## Filter Bag and Media Strainer Series

### **Fulflo Filter Bags Provide High Quality, Consistent Filtration Performance**

Fulflo Filter Bags are ideal for virtually any process filtration application requiring the removal of solids. Parker's Fulflo filter bags are manufactured and tested under the strictest quality control standards to assure consistent performance. Parker's Fulflo filter bags perform at high flow rates and viscosities to 10,000 cps or higher.

Standard Fulflo Filter Bags are available in 1µm to 800µm particle retention ratings.

### **Applications**

- |                     |                                   |
|---------------------|-----------------------------------|
| ■ Adhesives         | ■ Paints                          |
| ■ Beverages         | ■ Parts Washing Systems           |
| ■ Bulk Chemicals    | ■ Petroleum Oils                  |
| ■ Coatings          | ■ Prefilters for Finer Cartridges |
| ■ Coolants          | ■ Resins                          |
| ■ Edible Oils       | ■ Solvents                        |
| ■ Inks              | ■ Water                           |
| ■ Liquid Detergents |                                   |



### **Standard Bag Features and Benefits**

- Standard filter bags fit Fulflo vessels and most major competitive models.
- The "C" Style Fulflo bag features a polypropylene Quik-Seal ring which effectively seals the bag into standard Parker bag vessels.
- The "G" Style Fulflo bag features a carbon steel snap ring for positive sealing in competitive vessels.
- Fulflo Quik-Seal™ option is available for all "G" style Fulflo filter bag media.
- Felt bags come standard with glazed surface treatment to effectively control migration of fibers into the filtered product.
- Polypropylene felt (P) bags are suitable for incidental food contact per CFR Title 21.

## Filter Bag and Media Strainer Series

### Specifications

#### Effective Removal Ratings:

- 0.5µm to 800µm

#### Maximum Recommended

- Temperature:
  - Polyester: 275°F (136°C)
  - Polypropylene: 200°F (94°C)
  - Monofilament Nylon Mesh: 275°F (136°C)
  - Nomex®: 425°F (220°C)
  - Multifilament Polyester Mesh: 275°F (136°C)
- Flow Rate: (Per single length)
  - Standard Bag: 80 gpm (303 lpm)
- Changeout ΔP: 35 psi (2.4 bar)
- Pressure: 70 psid (4.8 bar)

#### Size:

- C1: 7.5" X 17.5"
- C2: 7.5" X 31.5"
- G1: 7" X 17.5"
- G2: 7" X 31.5"

#### Standard Seal: (no seal option specified)

- C = Plastic Quik-Seal™ Ring (polypropylene for P felt and polyester for PE felt)
- G = Steel Snap Rin7

#### Bag Media Selection:

- Felt:** Synthetic needled fabric offers cost-effective depth filtration. Particle retention ratings from 1µm to 200µm.
- Monofilament Mesh:** Single strand nylon with retention ratings from 100µm to 600µm.
- Glazed:** In polypropylene or polyester felts, the surface fibers are melt bonded to one another, reducing the possibility of fiber migration.
- Multifilament Mesh:** Strong fabric woven from twisted strands. Particle retention ratings from 150µm to 800µm.
- High Temperature Nomex®.**

#### Standard Bag Flow Factors

Rating (µm)	Flow Factor
1	0.00083
3	0.00059
5	0.00044
10	0.00029
25	0.00017
50	0.00013
75	0.00008
100	0.00007

#### Flow Rate and Pressure Drop Formulae:

$$\text{Flow Rate (gpm)} = \frac{\text{Clean } \Delta P \times \text{Length Factor}}{\text{Viscosity} \times \text{Flow Factor}}$$

$$\text{Clean } \Delta P = \frac{\text{Flow Rate} \times \text{Viscosity} \times \text{Flow Factor}}{\text{Length Factor}}$$

#### Notes:

- Clean ΔP** is PSI differential at start.
- Viscosity** is centistokes. Use Conversion Tables for other units.
- Flow Factor** is ΔP/GPM at 1 cks for single length bag.
- Length Factors** convert flow or ΔP from from single length bags. Use length factor of 1 for single length and a factor of 2 for double length.

### Ordering Information

Bag Style	Bag Size	Media	Micron	Seal Options	Other Options	Example
<b>Polypropylene, Polyester Felt Bags</b>						
C	1	P = Polypropylene	1,3,5,10,25,50,100 (P)	F = Flex Band Seal		C2PE10
	2	PE = Polyester	1,3,5,10,25,50,75,100,200 (PE)			C2P50-F
G	1	P = Polypropylene	1,3,5,10,25,50,100 (P)	Q = Top Sealing Plastic Ring		G2PE25
	2	PE = Polyester	1,3,5,10,25,50,75,100,200 (PE)			G1P100-Q
<b>Polyester Multifilament Bags</b>						
C	1	PEMU = Polyester	150,200,250,300,400,800	F = Flex Band Seal		C2PEMU150-PE
	2			PE = Polyester Quik Seal Ring		
G	1	PEMU = Polyester	150,200,250,300,400,800	Q = Top Sealing Plastic Ring	H = Cotton Handle	G2PEMU400-H
	2					
<b>Nomex Felt Bags</b>						
C	1	NOM = Nomex	25,50,100	F = Flex Band Seal (Required)		C2NOM50
	2					
G	1	NOM = Nomex	25,50,100		H = Cotton Handle	G1NOM50
	2					
<b>Nylon Monofilament Bags</b>						
C	1	MNO = Nylon	100,200,300,400,600	F = Flex Band Seal		C2MNO200
	2			PE = Polyester Quik-Seal Ring		
G	1	MNO = Nylon	100,200,300,400,600	Q = Top Sealing Plastic Ring		G2MNO200-Q
	2					

Note: Q = Polypropylene Quik-Seal Ring  
PE = Polyester Quik-Seal Ring

# 1.4

# Analysautstyr

## Olje/partikkel analyse

**I gjennomføring av tilstandsbasert vedlikehold på drifts- og produksjonsutstyr må en ha et grunnlag for vurdering av vedlikeholdsfrekvens og omfang.**

Analyse av hydraulikk- og smøreoljer fra maskiner og anlegg vil kunne gi svar på «helsetilstanden» til anlegget. Ved å holde kontroll på enkle faktorer vil man få svar på tilstand og utvikling.

Som verktøy for en driftsansvarlig vil slike analyser være til god hjelp for å sette opp vedlikeholdsplaner som kan differensieres og behovprøves på de ulike anleggene i driften.

Mento har erfaring med behandling av hydraulikkanlegg mot vann/partikler og bakterievekst etc. med full drift og dermed uten nede tid på anlegget – penger spart...

Mento leverer utstyr for analyse av:

- **Partikkeltelling og renhetsnivå i olje. Målt i henhold til alle brukte standarder. Vi fører de fleste fabrikat og typer partikkeltellere og renhetsmonitorer. Lab sett og mikroskop utstyr for feltbruk er også alternativer her. Vår lange erfaring gjør at vi gjerne kan hjelpe med forslag for behov og bruk.**
- **Vann i olje. Målt i prosent metning eller PPM.**
- **Her finnes flere forskjellige produsenter og utstyr. Sensorer som kan monteres i anlegget, håndholdte instrumenter og andre målemetoder . Spør oss om den beste løsningen!**
- **Innhold/vekst av bakterier sopp og gjær i olje. Mest vanlig er enkle verktøy som hurtig påviser vekst og eventuelt hvor kritisk denne er.**
- **Som samarbeidspartner kan Mento også utføre oljeanalyser – enten fast periodisk eller på bestilling. Vi utsteder rapporter og foreslår mer omfattende analyser og eventuelt behandling av oljen ved behov.**



Sensor CS 1000 series



LaserCM Transportabel partikkelteller

## Portable Particle Counter LaserCM Fluid Condition Monitoring

### Features & Benefits

<b>Test time:</b>	2 minutes
<b>Particle counts:</b>	2+, 5+, 15+, 25+, 50+ and 100+ microns 4+, 6+, 14+, 21+, 38+ and 70+ microns(c)
<b>International codes:</b>	ISO 7-22, NAS 0-12
<b>Data retrieval:</b>	Memory access gives test search facility
<b>Max. working pressure:</b>	420 bar
<b>Max. flow rate:</b>	400 l/min when used with system 20 Sensors. Higher with single point sampler (consult Parker)
<b>Working conditions:</b>	LaserCM will operate with the system working normally
<b>Computer compatibility:</b>	Interface via RS232 connection @ 9600 baud rate.

- Special 'diagnostics' are incorporated into the LaserCM microprocessor control to ensure effective testing.
- Routine contamination monitoring of oil systems with LaserCM saves time and saves money.
- Contamination monitoring is now possible while machinery is working - LaserCM saves on production downtime.

- Data entry allows individual equipment test log details to be recorded.
- Data retrieval of test results from memory via hand set display.
- Automatic test cycle logging of up to 300 tests can be selected via hand set display.
- Totally portable, can be used as easily in the field as in the laboratory.
- Automatic calibration reminder.
- Instant, accurate results achieved with a 2 minute test cycle.
- Data entry allows individual equipment footprint record.
- Data graphing selectable via the integral printer.
- Auto 300-test cycle logging via LCD handset input.
- RS232 serial port computer interface.
- Limit level output to control peripheral equipment such as off-line filtration via internal relay limit switches.
- Auto-testing allows for the conducting of automatic sequencing tests on flushing systems for example.
- Optional bar code swipe wand to allow handset data loading.
- Worldwide service and technical support.

### Typical Applications

- Construction machinery
- Industrial plant
- Hydraulic equipment & system manufacturers
- Research & testing institutes
- Offshore & power generation
- Marine
- Military equipment applications

### Parker LaserCM Portable Particle Counter.

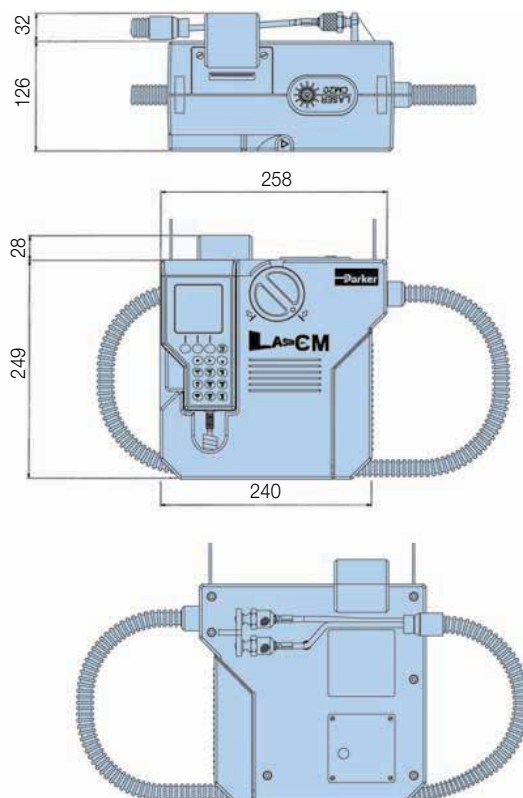
With 15 years experience in manufacturing the world's best selling 'white light' portable particle counter – CM20, the progression to the LaserCM with its opto-mechanical, continuous wave single point source laser (SPSL) is both a natural and customer driven development.



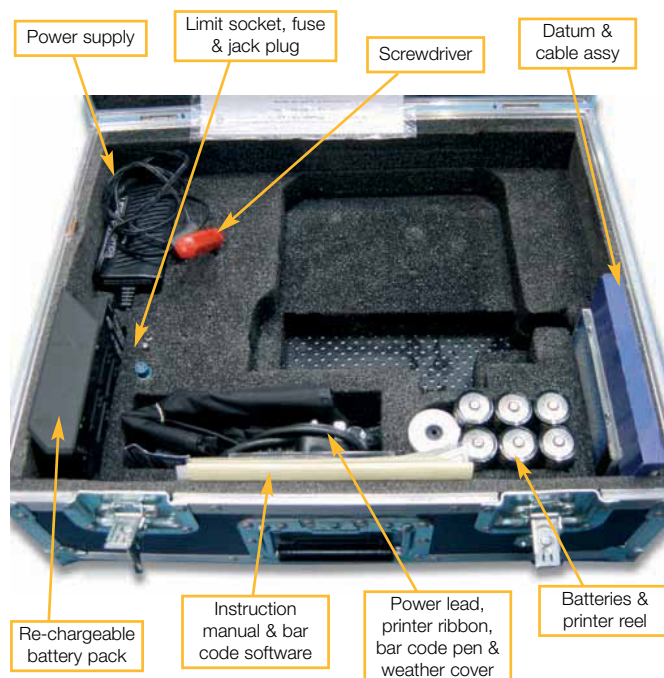
## Specification

Description	LaserCM (LCM20.2021)	LaserCM (LCM20.2061)
A) Lexan, structural foam and ABS case		
B) Parylene coated	A	B
ABS handheld display	●	●
Mechanical composition – Brass, plated steel, stainless steel and aluminium	●	●
Fluorocarbon seals	●	
Perfluoroelastomer seals		●
Nylon hoses (kevlar braided microbore)	●	●
Stainless steel armoured hose ends	●	●
1.2m fluid connection hose	●	●
System 20 sensors. Higher with single point sampler	●	●
Rechargeable battery pack	●	●
12Vdc power supply	●	●
Fast blow fuse	●	●
Unique optical scanning system	●	●
Bonded glass optical window enclosed in SS plate	●	●
Micron channels analysis (2+,5+,15+,25+,50+ & 100+)	●	●
Analysis range ISO 7 to 22 incl. (NAS 0 to 12)	●	●
32 character dot matrix LCD. Alpha numeric keypad	●	●
Data retrieval	●	●
Calibration to ISO standards*	●	●
Viscosity range 2 to 100 cSt. 500 cSt.with SPS	●	●
Operating temp.+5 to +80°C	●	●
Ambient temp.+5 to +40°C	●	●
2 minute test completion time	●	●
Memory store – 300 test memory	●	●
12Vdc regulated power supply input	●	●
Battery operated 6 x 1.5 D cells	●	●
Phosphate Ester group compatibility		●
Mineral oil & petroleum based fluid compatibility	●	●
Up to 420 bar (6000 psi)	●	●
Integral 16 column printer	●	●
RS232 computer interface	●	●
Astra board case weight – (Kg)	5	5
Unit weight – (Kg)	8	8
DATUM software and cable link pack	●	●
Weather protector cover	●	
CE certified	●	●
Auto logging	●	●

\*Note: In compliance with international standards, all Parker portable particle counters can meet the ISO Medium test dust standards. The LaserCM's, in addition to the complete range of Condition Monitoring products, are capable of achieving certification to ISO 4406:1999 and with traceability to ISO 11171 for SRM 2806, via ISO 11943.



## Commissioning Kit





## Why On-Site Fluid Contamination Monitoring

- Certification of fluid cleanliness levels.
- Early warning instrument to help prevent catastrophic failure in critical systems.
- Immediate results with laboratory accuracy.
- To comply with customer cleanliness requirements and specifications.
- New equipment warranty compliance.
- New oil cleanliness testing.



## Datum Data Management



Datum, dedicated software, provides the link between a Laser CM20, System 20 EM20 or the H<sub>2</sub>Oil - Water in Oil and your computer management system.

### Features:

- Windows based, Icon driven program
- Full graphic output
- Tables/results download
- Trend analysis and predictive maintenance
- Auto test communication allows Datum to control particle counter testing and water in oil monitoring
- Certification creator using downloaded data
- Customer customised fields



16-column printer for hard copy data. A feature of the LaserCM is the on-board printout data graphing option developed to support predictive maintenance procedures.

Laser CM Test	
ON LINE TEST	
TEST NUMBER 022	
Date	D M Y
Time	04-03-06
ISO:	15-52
	20/15/09
Count / 100ml	
>2µ	820721
>5µ	31564
>15µ	314
>25µ	64
>50µ	14
>100µ	0
NOTES	

ISO 4406 - 1996  
(MTD calibration comes under  
ISO 4406 - 1999 revised  
standards)

Laser CM Test	
ON LINE TEST	
TEST NUMBER 022	
Date	D M Y
Time	04-03-06
NAS CLASS:	15-52
	7
Count / 100ml	
2/5µ	789157
5/15µ	31250
NAS CLASS	7
15/25µ	250
NAS CLASS	3
25/50µ	50
NAS CLASS	3
50/100µ	14
NAS CLASS	4
>100µ	0
NAS CLASS	0
NOTES	

Correlation to NAS 1638

## Introducing the new LCM 'Classic'

There is a new addition to the proven range – the LCM 'Classic'. Only available from Parker, the 'Classic' retains all the technology that made the LaserCM one of the most accurate, reliable and popular portable particle counters available.

Our design engineers have re-configured the LaserCM specification in a way that has reduced our manufacturing costs. These savings have been passed onto LCM 'Classic' customers.

### How have we done this?

First we talked to our existing customers and then to the engineers and maintenance operatives to find out the features that make the LaserCM a unique predictive maintenance instrument.

Then, we removed peripheral items such as the aluminium case and all the accessories, so a customer receives the monitor, with a CD user guide, professionally and securely boxed. One thing that has not altered is laser accuracy and laser reliability. Our in-house software engineers have re-configured the EPROM, removing Data programming, User ID, Automatic Testing, Data retrieval, Alarm level settings, the barcode pen and Graph printing functions to reduce costs still further without in any way reducing the efficiency of the monitor. The LCM 'Classic' is an instrument to be proud of.



## Ordering Information (LaserCM and 'Classic' LaserCM)

### Standard products table

Part number	Supersedes	Description
<b>LCM202022</b>	N/A	MTD calibrated
<b>LCM202026</b>	N/A	Classic unit - MTD calibrated
<b>B84702</b>	B.84.702	Printer paper (5 rolls)
<b>P843702</b>	N/A	Printer ribbon
<b>B84729</b>	B.84.729	12Vdc power supply
<b>B84609</b>	B.84.609	Re-chargeable battery pack
<b>P849613</b>	N/A	Weather protector cover
<b>B84779</b>	B.84.779	Datum software pack
<b>B84708</b>	B.84.708	Cable and adaptor

Note 1: Part numbers featured with bold highlighted codes will ensure a 'standard' product selection.

Note 2: Alternate displayed part number selection will require you to contact Parker Filtration for availability.

### Product configurator

Model	Fluid type		Options	
<b>LCM2020</b>	<b>2</b>	Hydraulic mineral	<b>1</b>	ACFTD calibrated
<b>LCM2020</b>	<b>6</b>	Skydrol	<b>2</b>	MTD calibrated
			3	ACFTD calibrated + bar code pen
			4	MTD calibrated + bar code pen
			<b>5</b>	Classic unit - ACFTD calibrated
			<b>6</b>	Classic unit - MTD calibrated

Note 1: Part numbers featured with bold highlighted codes will ensure a 'standard' product selection.

Note 2: Alternate displayed part number selection will require you to contact Parker Filtration for availability.

## Online Particle Detector Icount<sup>PD</sup>



- Consistent quality
- Technical innovation
- Premier customer service

Parker's technical resources provide the best filtration technologies that conform to your requirements. That's why thousands of manufacturers and equipment users around the world rely on Parker Filtration products and people.

## Worldwide Sales and Service

Parker operates sales and service centres in major industrial areas worldwide. Call 1-800-C-PARKER for more product information in North and South America and 00800 27275374 for the European Product Information Centre (24 Hr).

### WARNING

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

This document and other information from Parker Hannifin Corporation, its subsidiaries and authorized distributors provide product and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application and review the information concerning the product or system in the current product catalog. Due to the variety of operating conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements of the application are met.

The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by Parker Hannifin Corporation and its subsidiaries at any time without notice.

### Offer of Sale

The items described in this document are hereby offered for sale by Parker Hannifin Corporation, its subsidiaries or its authorized distributors. This offer and its acceptance are governed by the provisions stated in the "Offer of Sale".

### Hydraulic, Lubrication & Coolant Filtration

High-performance filtration systems for production machinery in industrial, mobile and military/marine applications.



### Compressed Air & Gas Filtration

Complete line of compressed air/gas filtration products; coalescing, particulate and adsorption filters in many applications in many industries.



Photo courtesy of GLASBAU HAHN.

### Process & Chemical Fluid Filtration

Liquid filtration systems for beverage, chemical and food processing; cosmetic, paint, water treatment; photo-processing; and micro-chip fabrication.



### Racor Fuel Conditioning & Filtration

Parker air, fuel and oil filtration systems provide quality protection for engines operating in any environment, anywhere in the world.



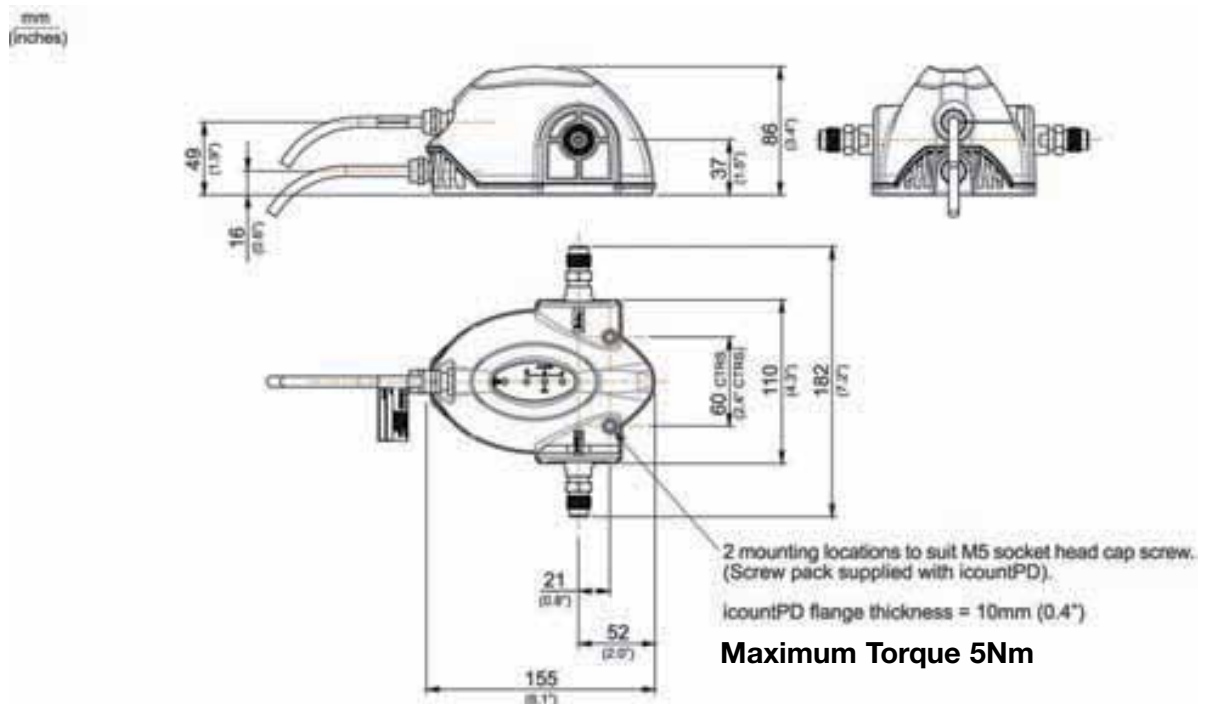
### System Contamination Monitoring

On-line dynamic particle analysis, off-line bottle sampling and fluid analysis and measurement of water content polluting the oil in a system. All important and achievable, cost-effective solutions available to equipment manufacturers and end users alike.



## Online Particle Detector IcountPD

### Dimensions / Installation Details



### Typical Applications

- **Mobile Equipment**

- o Earth Moving Machinery
- o Harvesting
- o Forestry
- o Agriculture

Monitoring of the hydraulics, enabling the vehicles to function to their best capability under load conditions through pistons, servo valves, control rams and gear pumps.

- **Industrial Equipment**

- o Production Plants
- o Fluid Transfers
- o Pulp & Paper
- o Refineries

To monitor the cleanliness of the equipment throughout the production line, from the machine tool controlled hydraulics through to contamination of fluid transfer. Ensuring the integrity of the fluid is maintained throughout the refining process.

- **Power Generation**

- o Wind Turbines
- o Gearboxes
- o Lubrication Systems

With continuous monitoring the optimum level is achieved in the least amount of time.

- **Maintenance**

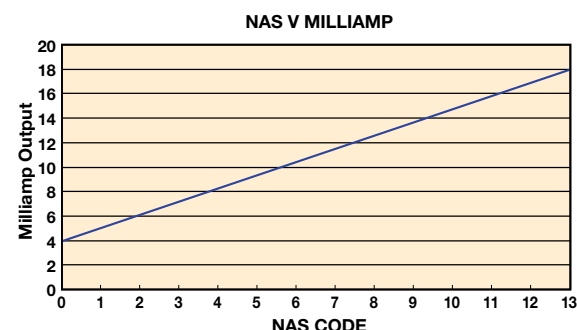
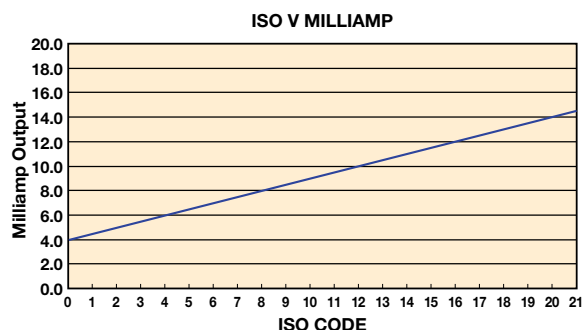
- o Test Rigs
- o Flushing Stands

To increase efficiency of your equipment by continuously monitoring the cleanliness level of the hydraulic fluid.



# Online Particle Detector IcountPD

## Variable mA output settings



The following table can be used to equate the analogue output to an ISO or NAS Code.

Example ISO code 12 is equal to 10mA

mA	ISO	mA	NAS
4.0	0	4	00
4.5	1	5	0
5.0	2	6	1
5.5	3	7	2
6.0	4	8	3
6.5	5	9	4
7.0	6	10	5
7.5	7	11	6
8.0	8	12	7
8.5	9	13	8
9.0	10	14	9
9.5	11	15	10
10.0	12	16	11
10.5	13	17	12
11.0	14	18	**
11.5	15	19	**
12.0	16	20	ERROR
12.5	17		
13.0	18		
13.5	19		
14.0	20		
14.5	21		
15.0	**		
15.5	**		
16.0	**		
16.5	**		
17.0	**		
17.5	**		
18.0	**		
18.5	**		
19.0	OVERRANGE		
19.5	OVERRANGE		
20.0	ERROR		

The following table can be used to equate the analogue output to an ISO or NAS Code.

Example ISO code 12 is equal to 10mA

### 4-20mA output settings

#### ISO Setting

mA current = (ISO Code / 2) + 4 eg. 10mA = (ISO 12 / 2) + 4

or

ISO Code = (mA current - 4) \* 2 eg. ISO 12 = (10mA - 4) \* 2

#### NAS Setting

mA current = NAS Code + 5 eg. 15mA = NAS 10 + 5

or

NAS Code = mA current - 5 eg. NAS 10 = 15mA - 5

## Variable voltage output settings

The variable voltage output option has the capability of two different voltage ranges: a 0-5Vdc range as standard, and a user-selectable 0-3Vdc range. The 'Full list of commands' on how to change the voltage output, are available from Parker.

The following tables can be used to relate the analogue output to an ISO or NAS code.

For example, in a 0-5Vdc range, ISO code 16 is equal to an output of 3.5Vdc. In a 0-3Vdc range, ISO code 8 is equal to an output of 1.0Vdc.

Table relating ISO codes to Voltage output

ISO	Err	0	1	2	3	4	5	6	7	8	9	10	11	
0-5Vdc	<0.2	0.3	0.5	0.7	0.9	1.1	1.3	1.5	1.7	1.9	2.1	2.3	2.5	
0-3Vdc	<0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	

cont.

ISO	12	13	14	15	16	17	18	19	20	21	22	Err
0-5Vdc	2.7	2.9	3.1	3.3	3.5	3.7	3.9	4.1	4.3	4.5	4.7	>4.8
0-3Vdc	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	>2.45

Table relating NAS codes to Voltage output

ISO	Err	00	0	1	2	3	4	5	6	7	8	9	10	11	12	Err
0-5Vdc	<0.4	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0	3.3	3.6	3.9	4.2	4.5	>4.6
0-3Vdc	<0.2	N.S.	0.3	0.5	0.7	0.9	1.1	1.3	1.5	1.7	1.9	2.1	2.3	2.5	2.7	>2.8

## Digital display parameters (ISO 4406/NAS 1638)

### Start up

1. Once the IcountPD has been connected to a regulated power supply, the product logo is displayed for approximately five seconds as the IcountPD performs a self system diagnostic check.
2. The IcountPD then automatically starts monitoring using factory default test parameters.



### Digital display indication

The digital display will show the actual measured codes, the channel ( $\mu$ ) size and the user definable limits. Note that the channel size and limits will alternate between the two.

The Moisture Sensor reading (%RH) will also be shown – if the Moisture Sensor option is fitted.

The order of trigger for both the codes and Moisture Sensor option is:

- Solid digit(s) = code(s) that are at or below the set point (limit)
- Flashing digit(s) = code(s) that are above the set point (limit)

The display for ISO4406 and NAS1638 are identical. The ISO display is shown below.

### Error detection:

In the unlikely event of a error occurring, the digital display on the IcountPD will simply display the actual error code only – i.e. ERROR 13 (A full list of error codes are detailed in the IcountPD User Manual).

### Moisture sensor output settings

The Moisture Sensor is an option that can be included when specifying the IcountPD.

The Moisture Sensor reports on the saturation levels of the fluid passing through the IcountPD sensing cell. The output is a linear scale, reporting within the range of 5% saturation to 100% saturation.

Table relating Saturation levels in the sensing cell to IcountPD outputs

Saturation	4–20mA	0–3Vdc	0–5Vdc
5%	4.8	0.15	0.25
25%	8	0.75	1.25
50%	12	1.50	2.50
75%	16	2.25	3.75
100%	20	3.00	5.00



## Ordering Information

Standard Products Table

Part number	Fluid type	Calibration	Display	Limit relay	Communications	Moisture sensor	Cable connector kit	Future option
<b>IPD12212130</b>	Mineral	MTD	LED	No	RS232 / 4-20mA	No	M12 - 8 pin	N/A
<b>IPD12212230</b>	Mineral	MTD	LED	No	RS232 / 4-20mA	Yes	M12 - 8 pin	N/A
<b>IPD12222130</b>	Mineral	MTD	LED	Yes	RS232 / 4-20mA	No	M12 - 8 pin	N/A
<b>IPD12222230</b>	Mineral	MTD	LED	Yes	RS232 / 4-20mA	Yes	M12 - 8 pin	N/A
<b>IPD12312130</b>	Mineral	MTD	Digital	No	RS232 / 4-20mA	No	M12 - 8 pin	N/A
<b>IPD12312230</b>	Mineral	MTD	Digital	No	RS232 / 4-20mA	Yes	M12 - 8 pin	N/A
<b>IPD12322130</b>	Mineral	MTD	Digital	Yes	RS232 / 4-20mA	No	M12 - 8 pin	N/A
<b>IPD12322230</b>	Mineral	MTD	Digital	Yes	RS232 / 4-20mA	Yes	M12 - 8 pin	N/A

Product Configurator

Key	Fluid type	Calibration	Display	Limit relay	Communications	Moisture sensor	Cable connector kit	Future option
IPD	1 Mineral	1 ACFTD	1 None	1 No	1 RS232	1 No	0 No	0
	2 Aggressive	2 MTD	2 LED	2 Yes	2 RS232 / 4-20mA	2 Yes	1 Deutsch DT Series Connector	
	3 Aviation fuel hazardous areas	3 AS4059	3 Digital		3 RS232 / 0-5V		3 M12, 8 Pin Plug Connector*	
	4 Aviation fuel non-hazardous area		4 GSM		4 RS232 / RS485			
					5 RS232 / CANBUS			

## Accessories

Description	Part number	
	Mineral	Aggressive
1 metre hose length	B84224	B84827
2 metre hose length	B94802	B94801
5 metre hose length	B84730	B84828
Minimess 1/4" BSP fitting	P653109	P843081
Minimess 1/8" BSP fitting	P653110	P853008
Minimess 1/8" NPT fitting	P653512	P853005
Single point sampler	SPS2021	SPS2061
Internal flow device	Contact Parker	Contact Parker
Power supply	B84829	
5 Metre, M12		
8 Pin Plug and Socket Cable Kit*	B84654	Contact Parker
Deutsch Connector Kit	P843130	
RS232 To USB Converter	P84011	

\* M12 Cable kit consists of two 5 metre cables to enable all output options (Communications cable and Relay/Power Supply cable)

Part number	Supercedes	Size	Flow range l/min	Fluid type	Port threads
<b>STI0144100</b>	STI.0144.100	0	6-25	Mineral	3/8
<b>STI1144100</b>	STI.1144.100	1	20-100	Mineral	3/4
<b>STI2144100</b>	STI.2144.100	2	80-380	Mineral	1 1/4
<b>STI0148100</b>	STI.0148.100	0	6-25	Aggressive	3/8
<b>STI1148100</b>	STI.1148.100	1	20-100	Aggressive	3/4
<b>STI2148100</b>	STI.2148.100	2	80-380	Aggressive	1 1/4

## Fluid Condition Monitoring Moisture Sensor Range



# MS150 Moisture Sensor

## Specification

**Pressure:**  
Maximum allowable operating pressure. (MAOP): 10 bar (145 PSI).

**Operating temperature:**  
Minimum: -20°C (-4°F).  
Maximum: +85°C (+185°F).

**Flow through sensor cell:**  
Installed in active flowstream.

**Fluid compatibility:**  
Mineral oils, petroleum-based and Phosphate ester.

**Viscosity range:**  
Unlimited.

**Port connections:**  
1/4" BSPT or 1/4" NPT.

**Supply voltage:**  
+8 to +30 Vdc.

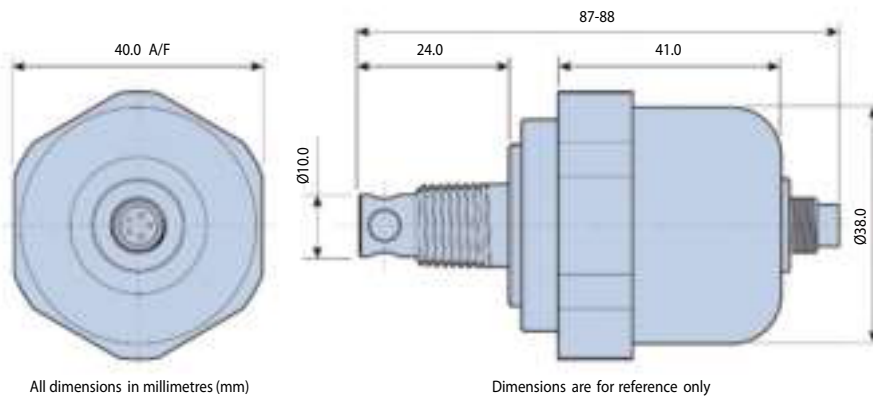
**Sensor size/weight/material:**  
80mm x 43mm/0.1kg/Aluminium

**IP ratings:**  
IP68

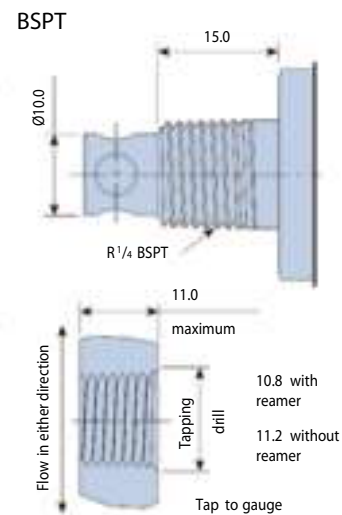
**%RH Outputs:**  
(1+ to +5 Vdc) or (+4 to 20mA)

**Temperature Outputs:**  
0 to +5 Vdc

## Installation Details



### Thread Form Options



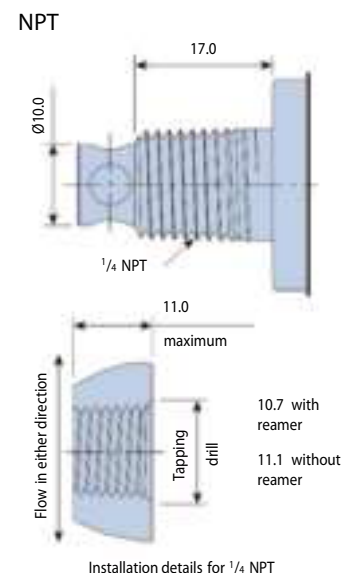
Installation details for R 1/4 BSPT taper

### Sensor Outputs

MS150 moisture sensor pin designations			
Pin	Designation	I/O	Description
1	Supply	Input	Supply voltage (+8 to +30Vdc)
2	%RH	Output	% Saturation out (+1 to +5Vdc)
3	%RH	Output	% Saturation out (+4 to +20mA)
4	Temperature	Output	Temperature out (0 to +5Vdc)
5	Common	Input	Common (0Vdc) ground from power supply (not chassis ground)

### Interpreting the data

Oil type: Texaco Rando 46.  
Saturation point: 400ppm @ 65°C (150°F).  
At the above operating condition, the meter displays 100% saturation. As the meters scale indicates a reduction in the saturation percentage, there is also a corresponding reduction in PPM at a constant temperature. In the example above, a meter reading of 50% saturation could be interpreted as 200ppm at 65°C (150°F).

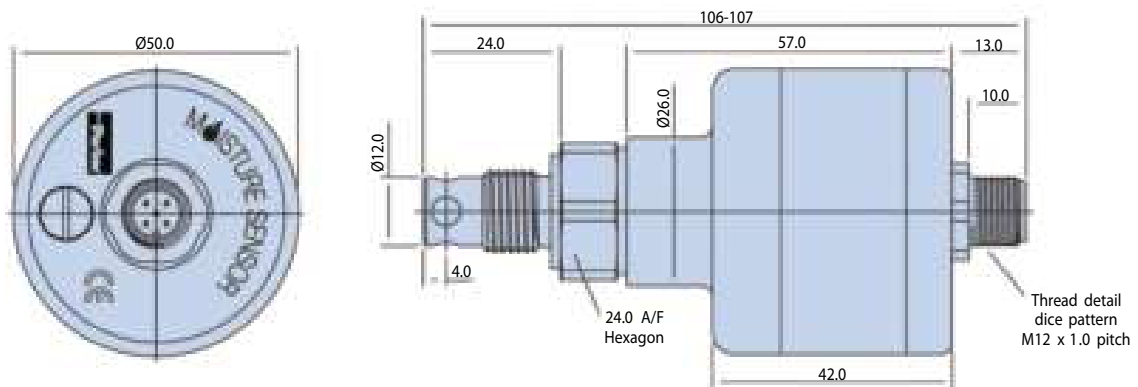


# MS200 'Programmable'

## Specification

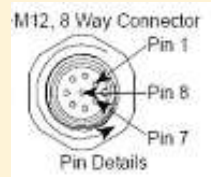
% S aturation Calibration Accuracy:	+3% RH
Temperature Calibration Accuracy:	±1°C
Thermal Stability:	±1% RH (over compensated temperature range +10 to +80°C)
Stability:	±0.2% RH typical at 50% RH in 1 year
Linearity:	±0.5% RH typical
Analogue Output Hysteresis:	±0.5% RH Full Scale
Switched Output Hysteresis:	2% RH
Operating Temperature Range:	-40°C to +85°C (-40 to +185°F)
Operating Humidity Range:	5 to 100% RH (non condensing)
Response Time:	60 sec in slow moving air at 25°C
Maximum rated pressure:	420 Bar (6000 PSI)
Maximum torque on spanner flats:	30 Nm (ONLY USE SPANNER FLATS TO INST ALL AND REMOVE THE MOISTURE SENSOR)
Seal Material (depending on MS):	Fluorocarbon, EPDM, Perfluoroelastomer
Material:	Stainless Steel 303
Connector Details:	M12x1, 8 Way, IP67 Connector (IP68 when mated)
Maximum Cable Length:	10 Metres with Voltage Output 100 Metres with Current Output
Output:	SEE ORDERING INFORMATION

## Installation Details



## Moisture Sensor Wiring and Pin Designations

Pin	Wire Colour	Designation	I/O	Description
1	Brown	Analogue	Output	Temperature - Degí Celsius. User Select Output (0-3Vdc, 0-5Vdc, 1-6Vdc and 4-20mA).
2	Green	Alarm Limit	Output	Alarm Limit. Output that directly corresponds to the alarm set point.
3	Yellow	Analogue	Output	% S aturation. User Select Output (0-3Vdc, 0-5Vdc, 1-6Vdc and 4-20mA).
4	Grey	Receive	Input	RS232 Communication.
5	Pink	Send	Output	RS232 Communication.
6	Blue	Common	Input	Common (0Vdc). Ground from power supply.
7	White	Alarm Switch	Output	Alarm Switch. Constant 5Vdc when in normal operation. Switch to 0Vdc when in alarm condition. Red LED illuminates when Sensor is in an alarm condition.
8	Red	Supply	Input	Supply Voltage (+8 to +30Vdc). Green LED illuminates when power is properly applied.



# MS300 Intrinsically Safe

## Specification

### Pressure:

Maximum allowable operating pressure.  
(MAOP): 420 bar (6000 PSI).

### Operating temperature:

Minimum: -40°C (-40°F) - dependent on seal material.  
Maximum: +85°C (+185°F).

### Flow through sensor cell:

Installed in active flowstream.

### Fluid compatibility:

Mineral oils, petroleum-based and Phosphate ester-Skydrol option available.

### Viscosity range:

Unlimited.

### Thread form connections:

See ordering information.

### Outputs:

4-20mA (current loop).

### Calibration accuracy:

+/- 5% RH

### Compensated thermal stability:

+/- 1% RH (+ 10°C to +80°C)

### Materials:

Stainless steel 303.

### Sensor size/weight:

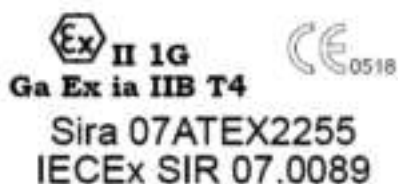
107mm x ø50mm/0.3Kg.

### IP ratings:

IP68 (with specified moulded cable)

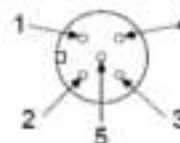
Developed in association with Triteq Ltd.

## Installation Details - See MS200



### Moisture Sensor Connection Diagram

1. Supply (4-20 mA - IN) - Brown
2. Signal (4-20 mA - OUT) - White
3. Not Used - Blue
4. Not Used - Black
5. Not Used - Grey



The MS300 has been certified as Intrinsically Safe Electrical Apparatus and offers fast, reliable and accurate in-line detection of moisture in fluids for use in hazardous areas.

ATEX Certification allows the MS300 into areas of a potentially explosive atmosphere, that have previously not been allowed without permits, it is intended for use in Zone 0 hazardous areas requiring the use of category 1G equipment and has been designed for use with galvanic isolators to the specified values stated below:

The electrical parameters:  $U_i$ : 28V  $I_i$ : 93mA  $P_i$ : 0.65W  $C_i$ : 380nF  $L_i$ : 0

The following instructions apply to MS300 - 4-20mA Current Loop Moisture Sensor covered by certificate number Sira 07ATEX2255:

1. The equipment may be located where flammable gases of Group I may be present. The equipment is only certified for use in ambient temperatures in the range -20°C to +40°C and should not be used outside this range.
2. The equipment has not been assessed as a safety-related device (as referred to by Directive 94/9/EC Annex II, clause 1.5).
3. Installation of this equipment shall be carried out by suitably trained personnel in accordance with the applicable code of practice.
4. Repair of this equipment shall be carried out by the manufacturer or in accordance with the applicable code of practice (IEC 60079-19).

## Visual Indicators Specifications

### Bar Graph Indicator (PBG8341A)

#### Construction:

Housing – nylon 6/6, window – acrylic,  
bezel/board supports – ABS,  
pins – phosphor bronze.

#### Power supply:

11 – 30 Vdc.

#### Signal input: (By dipswitch configuration)

Off – differential up to 5V.

A – single signal (Ref. 0V) up to 5V.

B – single signal (Ref. 1V) up to 6V.

#### Cut out size:

45.6mm x 45.6mm.

#### Fixing:

Push fit panel thickness 0.9mm to 3.2mm.

#### Sealing:

Designed to IP50 standard.

(Front face may be silicon sealed after LED configuration).

#### Scale:

Supplied 0 to 100% in horizontal.

Other scales, in volume, consult Parker Hannifin.

#### Scaling factors:

10% to 100% range. Fully adjustable.

#### Lamp intensity:

4mcd each.

#### Front viewing:

Polarised.

#### Weight:

29gms.

### Alternative Indicator

Description	DDU1001	DDU1002
Power supply	22 - 55 Vdc	110 - 240 Vdc
Accuracy	± 0/01% typical	± 0.1% typical
Sample rate	10 per second	2.5 per second
Operating temp (°C)	0 - 55	0 - 50
Storage temp (°C)	-10 to +70	-10 to +70
Display	5 digit LED	3 1/2 digit LED
Power output (Vdc)	24	24
Weight (kg)	0.21	0.30
Panel cutout (mm)	92x48 ±0.5	93x45 ±0.5
Dimensions (mm)	48x96x100	48x96x93



DDU1001



DDU1002



PBG8341A

### Product accessories part numbers

Product Number	Supersedes	Description	MS150	MS200	MS300
P9732PVC10	P.9732PVC-10	10 meter M12 IP68 PVC coated cable	Y	N	Y
P9732PVC05	P.9732PVC-05	5 meter M12 IP68 PVC coated cable	Y	N	Y
P9732PVC02	P.9732PVC-02	2 meter M12 IP68 PVC coated cable	Y	N	Y
P9732PUR10HS	N/A	10 meter M12 5 way high specified PUR coated cable	N	N	Y
P9732PUR10	P.9732PUR-10	10 meter M12 IP68 PUR coated cable	Y	N	Y
P9732PUR05	P.9732PUR-05	5 meter M12 IP68 PUR coated cable	Y	N	Y
P9732PUR02	P.9732PUR-02	2 meter M12 IP68 PUR coated cable	Y	N	Y
DDU1001	DDU-1001	+22 to +55 Vdc process indicator	Y	Y	Y*
DDU1002	DDU-1002	+110 to +240 Vac process indicator	Y	Y	Y
PBG8341A	PBG.8341.A	+11 to +30 Vdc bar graph indicator	Y	Y	Y*
B97200	N/A	5 meter M12 x 1, 8 way moulded cable (IP68)	N	Y	N
P973200	N/A	5way Re-wireable M12 connector (IP65)	Y	N	N
S970400	N/A	12 Vdc power supply	Y	Y	N
S970410	N/A	10 meter extension box	Y	Y	N
PA M8342	PAM.8342	Alarm module			

\* Only for use in a safe zone (ie laboratory)

## Moisture sensor output setting

The Moisture sensor reports on the saturation levels of the fluid passing through the sensing cell. The output is a linear scale, reporting within the range of 5% saturation to 100% saturation.

Saturation	4–20mA	0–3Vdc	0–5Vdc
5%	4.8	0.15	0.25
25%	8	0.75	1.25
50%	12	1.50	2.50
75%	16	2.25	3.75
100%	20	3.00	5.00

## Ordering Information

MS150 Standard Product Table

Product Number	Supersedes	Fluid type	Thread Forms	Connector
MS1503	MS150-3	Mineral + Aggressive	G 1/4" BSPT Taper	M12 5 WAY
MS1504	MS150-4	Mineral + Aggressive	1/4" NPT Taper	M12 5 WAY

MS200 - P Product Configurator

Key	Model		Fluid type		Output Options		Thread Forms		Connector		Intrinsically Safe	
MS	2	Programmable	2	Mineral	01	0 - 3 Vdc	1	G 1/4" BSP Bonded Seal	1	M12 8 WAY	0	No
			6	Aggressive	02	0 - 5 Vdc	2	G 1/4" BSP Integral Seal				
					03	1 - 6 Vdc	3	R 1/4" Taper Thread				
					04	4 - 20 mA	4	1/4" NPT Taper Thread				
							5	9/16 - 18 UNF 2A Integral Seal				
							6	Hand Held Unit				
							7	G 3/8" BSP Female Swivel Equal Tee				

Standard Product Table

Key	Model	Fluid type	Output Options	Thread Forms	Connector	Intrinsically Safe
MS	2	2	02	1	1	0
MS	2	2	04	1	1	0

MS300 - P Product Configurator

Key	Model		Fluid type		Output Options		Thread Forms		Connector		Intrinsically Safe	
MS	3	ATEX Compliant	2	Mineral	04	4 - 20 mA	1	G 1/4" BSP Bonded Seal	2	M12 5 WAY	0	Yes
			6	Aggressive			2	G 1/4" BSP Integral Seal				
			3	R 1/4" Taper Thread								
			4	1/4" NPT Taper Thread								
			5	9/16 - 18 UNF 2A Integral Seal								
			6	G 3/8" BSP Female Swivel Equal Tee								

Standard Product Table

Key	Model	Fluid type	Output Options	Thread Forms	Connector	Intrinsically Safe
MS	3	2	04	1	2	0





## FluidControl Unit FCU 1000 series Portable Models

Typenschlüssel / Model code / Code de commande

1	2	3	4	5	6	7	8	9
FCU	1	3	1	0	-	4	-	U - AS - M

Beispiel / Example/ Exemple

### 1 Type / Type / Modèle

FCU = FluidControl Unit

### 2 Serie / Series / Série

1 = **1000 Serie, 4 Partikelgrößenkanäle** / 1000 series, 4 particle size channels /  
1000 série, 4 canaux de taille de particules

### 3 Kodierung der Verschmutzung / Contamination code / Codification de la pollution

3 = ISO 4406:1987; NAS 1638 / > 2 µm > 5 µm > 15 µm > 25 µm  
ISO 4406:1999; SAE AS 4059 (D) / > 4 µm<sub>(c)</sub> > 6 µm<sub>(c)</sub> > 14 µm<sub>(c)</sub> > 21 µm<sub>(c)</sub>  
**umschaltbar** / reversible / *commutable*

### 4 Gehäuse / Housing / Boîtier

1 = **für tragbaren Einsatz (Kunststoffkoffer mit aufgesetzter Tasche für Schläuche und Kabel)** /  
for portable use (plastic case with appending bag for hoses and cables) /  
*pour utilisation mobile (malette en plastique avec pochette pour flexibles et câbles)*

### 5 Medien / Fluids / Fluides

0 = **auf Mineralölbasis** / based on mineral oil / *à base d'huile minérale*

### 6 Optionen / Options / Options

4 = **mit integrierter Pumpe** / with integrated pump / *avec pompe intégrée*

### 7 Versorgungsspannung / Supply voltage / Tension d'alimentation

U = **24 V DC**

### 8 Integrierter Sensor / Integrated Sensor / Senseur intégré

AS = **AquaSensor (AS 1000 series)**

### 9 Netzadapter / Power supply adaptor / Tension d'alimentation adaptateur réseau

K = 120 V AC / 60 Hz / 1 Phase, **USA/Canada** / USA/Canada / *Modèle USA/Canada*  
M = 230 V AC / 60 Hz / 1 Phase, **Europa** / Europe / *Modèle Europe*  
N = 240 V AC / 60 Hz / 1 Phase, **UK** / UK / *Modèle Royaume Uni*  
O = 240 V AC / 50 Hz / 1 Phase, **Australien** / Australia / *Modèle Australie*  
P = 100 V AC / 50 HZ / 1 Phase, **Japan** / Japan / *Modèle Japon*

**Technische Daten / Technical data / Caractéristiques techniques**
**Allgemeine Daten / General data / Caractéristiques générales**

<b>Selbstdiagnose</b> Self-diagnosis <i>Diagnostic automatique</i>	<b>kontinuierlich mit Fehleranzeige über Status LED und Display</b> continuously with error indication via status LED and display <i>affichage erreur continu via le statut de la LED et l'écran</i>		
<b>Display</b> Display <i>Ecran</i>	<b>LED, 3-zeilig, 6-4-4-stellig, mit je 17 Segmenten</b> LED, 3-line, 6-4-4-digit, each in 17-segment format <i>LED, 3-line, 6-4-4 positions à 17 segments</i>		
<b>Messwert</b> Measured value <i>Valeur de mesure</i>	<b>ISO Code / SAE Klasse / NAS Klasse / Sättigungsgrad / Temperatur</b> ISO code / SAE Class / NAS Class / Saturation level / Temperature <i>Code ISO / classe SAE / classe NAS / Degré de saturation / Température</i>		
<b>Messbereich</b> Measuring range <i>Plage de mesure</i>	<b>Anzeige von ISO Code 9/8/7 (MIN) bis ISO Code 25/24/23 (MAX)</b> Display from ISO code 9/8/7 (MIN) to ISO code 25/24/23 (MAX) <i>Affichage du code ISO 9/8/7 (MIN) jusqu'au code ISO 25/24/23 (MAX)</i> <b>Kalibriert im Bereich ISO 13/11/10 ... 23/21/18</b> Calibrated within the range ISO 13/11/10 ... 23/21/18 <i>Calibré dans la plage ISO 13/11/10 ... 23/21/18</i> <b>Sättigungsgrad 0...100 % / Temperatur -25...100°C (-13...212°F)</b> Saturation level 0...100% / Temperature -25...100°C (-13...212°F) <i>Degré de saturation 0...100% / Température -25...100°C (-13...212°F)</i>		
<b>Genauigkeit</b> Accuracy <i>Précision</i>	<b>+/- 1/2 ISO-Klasse im kalibrierten Bereich / <math>\leq \pm 2</math> % Full Scale max.</b> +/- 1/2 ISO-class in the calibrated range / $\leq \pm 2$ % Full Scale max. <i>+/- 1/2 ISO-classe dans la plage calibré / <math>\leq \pm 2</math> % Pleine échelle max.</i>		
<b>Dichtungswerkstoffe</b> Material of sealings <i>Matière des joints</i>	FPM		
<b>Umgebungstemperaturbereich</b> Ambient temperature range <i>Plage de température ambiante</i>	0 ... +45 °C / 32 ... 113 °F		
<b>Lagertemperaturbereich</b> Storage temperature range <i>Plage de température de stockage</i>	-40 ... +80 °C / -40 ... 176 °F		
<b>Schutzart</b> IP class <i>Indice de protection</i>	IP50	<b>im Betrieb</b> in Operation en service	IP67 <b>geschlossen</b> closed fermé
<b>Gewicht</b> Weight <i>Masse</i>	≈ 13 kg		

**Hydraulische Daten / Hydraulic data / Caractéristiques hydrauliques**

<b>Betriebsdruck</b> Operation pressure <i>Pression de service</i>	IN: - 0,5 ... 45 bar / -7.25 ... 650 psi OUT: 0 ... 0.5 bar / 0 ... 7.5 psi		
<b>mit Adapter für Druckleitungen</b> with Adaptor for pressure lines <i>avec Adaptateur pour conduite de pression</i>	IN: 15 ... 345 bar / 217 ... 5000 psi OUT: 0 ... 0.5 bar / 0 ... 7.5 psi		
<b>Druck max.</b> Pressure max. <i>Pression max.</i>	345 bar / 5000 psi		
<b>Messvolumenstrom</b> Measurement flow rate <i>Débit de mesure</i>	30 ... 300 ml/min	<b>(viskositätsabhängig)</b> (viscosity dependent) <i>(dépendant de la viscosité)</i>	
<b>Max. Saughöhe</b> Max. suction height <i>Hauteur aspiration max.</i>	1 m / 39.37 inch		
<b>Zulässiger Viskositätsbereich</b> Permissible viscosity range <i>Plage de viscosité admissible</i>	10 ... 350 mm²/s 46 ... 1622 Sus	<b>mit Adapter für Druckleitungen</b> with Adaptor for pressure lines <i>avec Adaptateur pour conduite de pression</i>	2 ... 350 mm²/s 10 ... 1622 Sus
<b>Medientemperaturbereich</b> Fluid temperature range <i>Plage de température du fluide</i>	0 ... +70 °C / 32 ... 158 °F		

**Elektrische Daten / Electrical data / Caractéristiques électriques**

<b>Versorgungsspannung</b> Power supply voltage <i>Tension d'alimentation</i>	<b>24 V DC <math>\pm 20\%</math>, Restwelligkeit &lt; 10%</b> 24 V DC $\pm 20\%$ , residual ripple < 10% 24 V DC $\pm 20\%$ , ondulation résiduelle < 10%		
<b>Max. Leistungs- / Stromaufnahme</b> Max. power / current consumption <i>Puissance Maxi / courant absorbée</i>	100 Watt / 4 A		
<b>Schnittstelle</b> Interface <i>Interface</i>	<b>Stecker 5-polig, M12x1,Stift</b> Plug connection 5-pole, male, M12x1 <i>Connecteur 5-pôles, mâles, M12x1</i>	<b>und</b> and <i>et</i>	<b>Bluetooth 1.2, Klasse 3</b> Bluetooth 1.2, Class 3 <i>Bluetooth 1.2, Classe 3</i>

007-06-04

Für die Richtigkeit der Angaben in diesem Prospekt übernehmen wir keine Garantie. Die Produktangaben beziehen sich auf durchschnittliche Einsatzfälle. Bei außergewöhnlichen Einsatz- oder Betriebsbedingungen wenden Sie sich bitte an unsere Fachabteilung. Technische Änderungen vorbehalten.

We do not guarantee the accuracy or completeness of this information. The information are based on average working condition. For exceptional operating conditions please contact our technical department. All details are subject to technical changes.

Concernant l'exactitude des données figurant dans ce prospectus, nous ne consentons pas la garantie. Les données techniques relèvent de cas d'applications généraux. Pour les applications ou conditions d'utilisation particulières, nous vous prions de bien vouloir vous adresser à nos services techniques. Sous réserve de modifications techniques.

## Partikkelteller FMMA, EEx d IIB T3



Type	: FMMA, Ex-Atex
Væsketyper	: mineral baserte oljer, naturlige og syntetiske estere
Beskyttelsesklasse	: Sone 1 - II 2 G – EEx d IIB T3
Strømforsyning	: 230 VAC – 1 fas
Partikkelsensor	
Type	: CS1000
Renhetsklasser	: ISO 4406:1999 ; SAE AS 4059 / >4µm, >6µm, >14µm, >21µm
Måleområde	: Visning fra klasse ISO 7/6/5 (MIN) til klasse ISO 28/27/26 (MAX) Kalibrert i området ISO 13/11/10...23/21/18
Nøyaktighet	: +/- ½ ISO klasse i det kalibrerte området
Arbeidstrykk	: 300 bar maks.
Tillatt volumstrøm under måling	: 30...300 ml/min
Digitalt grensesnitt	: RS 485
Analogt grensesnitt	: 4...20 mA
Brytersignal	: passive, n-switching Power MOSFET: max. current 1.5A; normally open

### AQUASENSOR

Type	: AS1000
Måleområde (metningspunkt)	: 0...100 % relativ fuktighet i forhold til væskens metningspunkt for vann
Måleområde (temperatur)	: -25...+100 °C
Utsignal	: 2 x 4...20 mA
Driftstrykk	: Maks. 50 bar
Overlasttrykk	: Maks. 630 bar
Kalibrert nøyaktighet	: < +/- 2% FS maks.





# 2.0

# Prosjektfilter

2.1	Komplette løsninger	2
2.2	Flammesperre	4
2.3	Strainere	7
2.4	Referanser	19
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## Prosessfilter

De fleste produksjonsindustrier har et prosess-anlegg. Det inkluderer gjerne vann, kjemikalie, gass- og luftbehandling. Det finnes også hjelpesystemer som er knyttet opp mot hovedprosessen, eks. hydraulikk-, brennstoff-, kjølevannsystem og varmeanlegg.

I slike anlegg er det behov for et bredt spekter av produktløsninger som filtre, ventiler, røropplegg, tanker og måleapparater. Ved design og konstruksjon eller ved modifikasjon er det viktig å velge komponenter som tilfredstiller de krav som settes i prosessene.

Filtrering er en viktig del av slike system, og fungerer som sikkerhet for sluttproduktets kvalitet.

En plattform inneholder samme prosessanlegg som landbasert industri. I tillegg benyttes store vannmengder for injeksjon, kjøling og oppvarming.

Design, dokumentasjon og produksjon etter offshore standard og krav fra kunde.

**Vi utarbeider filterløsninger etter kundens spesifikasjoner. Basert på vår erfaring velger vi optimale løsninger.**

**Vi leverer også komplette løsninger med ventiler ferdig sammenstillt og testet.**



28" Seawater Filter for Kristin Platform.



28" Seawater Filter element package





### Temporary Strainers

Sizes: 3/4" (20mm) - 36" (900mm) NB  
Flange Ratings: 150LB - 600LB  
Flange Races: R/F, RTJ, Full Face  
Materials: Carbon Steel, Stainless Steel, Monel, other exotic materials on customer requirements



### Y-Type Strainers

Sizes: 1/2" (15mm) - 12" (300mm) NB  
Flange Ratings: 125LB - 250LB  
Line Connections: Screwed, Socket-Weld, Butt-Weld, & Flanged  
Materials: Cast Iron, Carbon Steel, Low Temp., Stainless Steel, Duplex S.S, Super Duplex S.S, 6Mo St. St., Inconel, Monel



### Bucket & Simplex Strainers

Sizes: 1" (25mm) - 24" (600mm) NB  
Flange Ratings: 150LB - 2500LB  
Line Connections: Butt-Weld, & Flanged  
Materials: Cast Iron, Carbon Steel, Low Temp., Stainless Steel, Duplex S.S, Super Duplex S.S, 6Mo St. St., Inconel, Monel



### Bath-Tub & Tee-Type Strainers

Sizes: 2" (50mm) - 48" (900mm) NB  
Flange Ratings: 150LB - 2500LB  
Line Connections: Butt-Weld, & Flanged  
Materials: Carbon Steel, Low Temp., Stainless Steel, Duplex S.S,



### Duplex Filters

Sizes: 1" (25mm) - 30" (750mm) NB  
Flange Ratings: 150LB - 300LB  
Line Connections: Screwed, Butt-Weld, & Flanged  
Materials: Cast Iron, Carbon Steel, Stainless Steel, other materials on request



### Fabricated Y-Type Strainers

Sizes: 2" (50mm) - 48" (900mm) NB  
Flange Ratings: 150LB - 2500LB  
Line Connections: Butt-Weld, & Flanged  
Materials: Carbon Steel, Low Temp., Stainless Steel, Duplex S.S



### Fabricated Simplex Strainers

Sizes: 2" (50mm) - 48" (900mm) NB  
Flange Ratings: 150LB - 2500LB  
Line Connections: Butt-Weld, & Flanged  
Materials: Carbon Steel, Low Temp., Stainless Steel, Duplex S.S

### Fabricated Filters and Vessels

Sizes: 2" (50mm) - 48" (900mm) NB  
Flange Ratings: 150LB - 2500LB  
Line Connections: Butt-Weld, & Flanged  
Materials: Carbon Steel, Low Temp., Stainless Steel, Duplex S.S



# Flammesperre

Eksplisjonsfarlig gass beskyttes i prosessanlegget med flammesperrer (flame arrestors). Disse leveres som in-line eller pipevent arrestors.

## Pipevent Flame Arresters

For gas and vapour deflagration applications

Sizes: 1/2" (15mm) - 12" (300mm) NB

Flange Ratings: 150LB - 600LB

Flange Races: R/F, RTJ, Full Face

Connections: Flanged, Screwed, Socket-Weld & Butt-Weld

Materials: Carbon Steel & Stainless Steel, all grades



## Inline Flame Arresters

For gas and vapour deflagration applications

Sizes: 1/2" (15mm) - 12" (300mm) NB

Flange Ratings: 150LB - 600LB

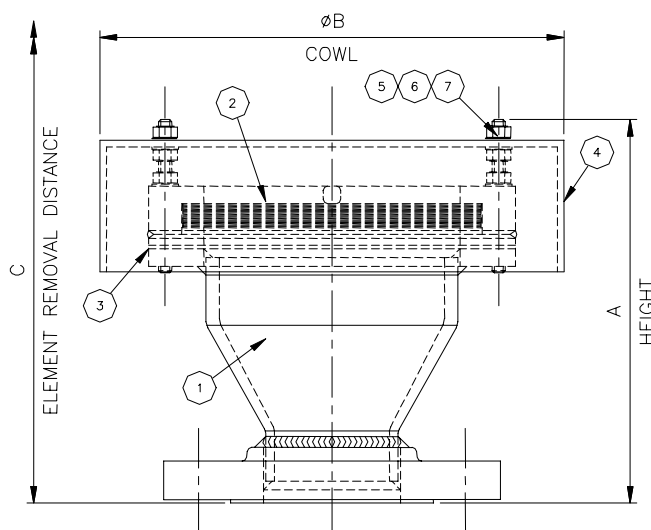
Flange Races: R/F, RTJ, Full Face

Connections: Flanged, Screwed, Socket-Weld & Butt-Weld

Materials: Carbon Steel & Stainless Steel, all grades



## Pipe Vent Flame Arresters



Our policy is one of continuous improvement and we reserve the right to amend any details without prior notice.

ALL DATA SUBJECT TO CONFIRMATION AT TIME OF ORDER

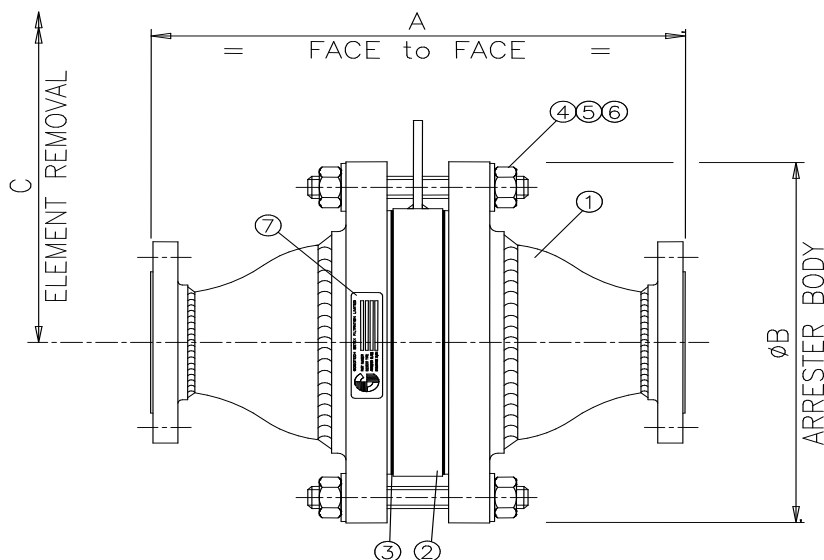
MATERIALS OF CONSTRUCTION			
ITEM	PART DESCRIPTION	CARBON STEEL	STAINLESS STEEL
1	ARRESTER BODY	ASTM A234 WPB / ASTM A105N	ASTM A403 WP316 / ASTM A182 F316
2	ELEMENT	ST. ST. 316	ST. ST. 316
3	GASKET	C.N.A.F.	C.N.A.F.
4	COWL	ST. ST. 316	ST. ST. 316
5	STUDS	ST. ST. 316	ST. ST. 316
6	NUTS	ST. ST. 316	ST. ST. 316
7	FLAT WASHERS	ST. ST. 316	ST. ST. 316
8	NAMEPLATE	ST. ST. 316	ST. ST. 316

OTHER MATERIALS AVAILABLE ON REQUEST

DESIGN DATA							
CARBON STEEL		STAINLESS STEEL	SIZE (N.B.)	DIMENSIONS			WEIGHT KG
PART NUMBER	PART NUMBER	A		B	C		
PV50-R15-CS-SOFLG-DEF	PV50-R15-SS-SOFLG-DEF	2" (50mm)	175	210	205	8	
PV65-R15-CS-SOFLG-DEF	PV65-R15-SS-SOFLG-DEF	2 1/2" (65mm)	213	250	243	12	
PV80-R15-CS-SOFLG-DEF	PV80-R15-SS-SOFLG-DEF	3" (80mm)	213	250	243	13	
PV100-R15-CS-SOFLG-DEF	PV100-R15-SS-SOFLG-DEF	4" (100mm)	225	310	255	18	
PV150-R15-CS-SOFLG-DEF	PV150-R15-SS-SOFLG-DEF	6" (150mm)	276	430	306	33	
PV200-R15-CS-SOFLG-DEF	PV200-R15-SS-SOFLG-DEF	8" (200mm)	403	480	433	52	
PV250-R15-CS-SOFLG-DEF	PV250-R15-SS-SOFLG-DEF	10" (250mm)	429	550	459	64	
PV300-R15-CS-SOFLG-DEF	PV300-R15-SS-SOFLG-DEF	12" (300mm)	454	620	484	85	
OTHER SIZES AND RATINGS AVAILABLE UPON REQUEST / PRICES IN POUNDS STERLING							

OTHER SIZES AND RATINGS AVAILABLE UPON REQUEST / PRICES IN POUNDS STERLING

# Pipeline Flame Arresters



Our policy is one of continuous improvement and we reserve the right to amend any details without prior notice.

**Additional Specifications**  
Internal/External linings etc.

ALL DATA SUBJECT TO CONFIRMATION AT TIME OF ORDER

## MATERIALS OF CONSTRUCTION

ITEM	PART DESCRIPTION	CARBON STEEL	STAINLESS STEEL
1	ARRESTER BODY	ASTM A234 WPB / A105N	ASTM A403 WP316 / A182 F316
2	ELEMENT	ST.ST.316	ST.ST.316
3	GASKETS	C.N.A.F.	C.N.A.F.
4	STUDBOLTS	ASTM A193 B7	ASTM A193 B7
5	HEX HEAD NUTS	ASTM A194 2H	ASTM A194 2H
6	FLAT WASHERS	C/STEEL	S/STEEL
7	NAMEPLATE	ST.ST.316	ST.ST.316

OTHER MATERIALS AVAILABLE ON REQUEST

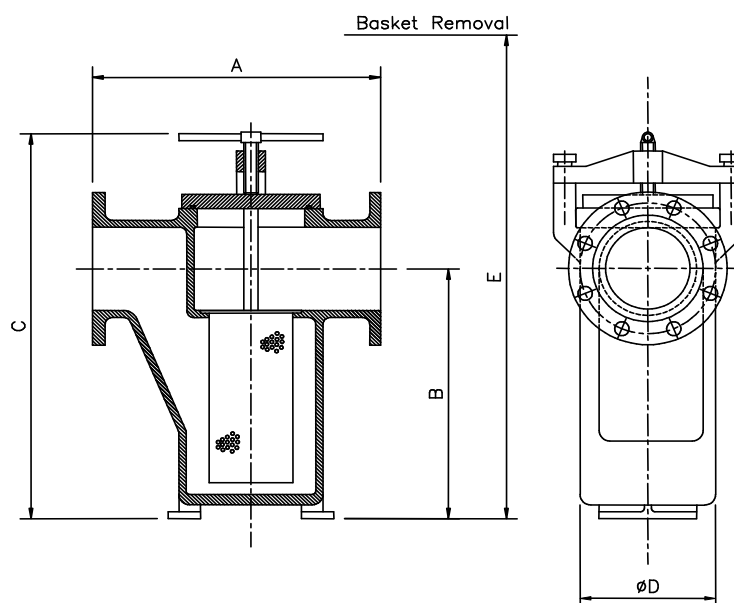
## DESIGN DATA

CARBON STEEL	STAINLESS STEEL	SIZE (N.B.)	DIMENSIONS					WEIGHT
PART NUMBER	PART NUMBER		A	B	C			KG
PL20-R15-CS-FLG-DEF	PL20-R15-SS-FLG-DEF	3/4"(20mm)	218	152	175			14
PL25-R15-CS-FLG-DEF	PL25-R15-SS-FLG-DEF	1"(25mm)	218	152	175			15
PL40-R15-CS-FLG-DEF	PL40-R15-SS-FLG-DEF	1 1/2"(40mm)	225	190	230			20
PL50-R15-CS-FLG-DEF	PL50-R15-SS-FLG-DEF	2 "(50mm)	227	229	280			25
PL65-R15-CS-FLG-DEF	PL65-R15-SS-FLG-DEF	2 1/2"(65mm)	327	254	320			28
PL80-R15-CS-FLG-DEF	PL80-R15-SS-FLG-DEF	3"(80mm)	363	279	360			44
PL100-R15-CS-FLG-DEF	PL100-R15-SS-FLG-DEF	4"(100mm)	388	343	445			66
PL125-R15-CS-FLG-DEF	PL125-R15-SS-FLG-DEF	5"(125mm)	483	483	630			116
PL150-R15-CS-FLG-DEF	PL150-R15-SS-FLG-DEF	6"(150mm)	483	483	630			119
PL200-R15-CS-FLG-DEF	PL200-R15-SS-FLG-DEF	8"(200mm)	580	483	630			160
PL250-R15-CS-FLG-DEF	PL250-R15-SS-FLG-DEF	10"(250mm)	802	597	775			240
PL300-R15-CS-FLG-DEF	PL300-R15-SS-FLG-DEF	12"(300mm)	1195	698	995			395
PL350-R15-CS-FLG-DEF	PL350-R15-SS-FLG-DEF	14"(350mm)	1200	813	1110			515
PL400-R15-CS-FLG-DEF	PL400-R15-SS-FLG-DEF	16"(400mm)	1430	984	1360			725

OTHER SIZES AND RATINGS AVAILABLE UPON REQUEST / PRICES IN POUNDS STERLING

# Basket Strainers

Class 150 LB / PN16 Flanged – Quick Release



Our policy is one of continuous improvement and we reserve the right to amend any details without prior notice.

**Additional Specifications**

Magnetic core baskets  
Dp gauges  
Internal/External linings etc.

ALL DATA SUBJECT TO CONFIRMATION AT TIME OF ORDER

## MATERIALS OF CONSTRUCTION

ITEM	PART DESCRIPTION	STAINLESS STEEL	CAST STEEL
1	STRAINER BODY	ASTM A351 CF8M	BS 3100 Gr A2
2	COVER	ASTM A351 CF8M	BS 3100 Gr A2
3	BASKET (MESHED AS REQUIRED)	ST.ST.316/304	ST.ST.316/304
4	GASKET	NITRILE	NITRILE
5	Q/R MECH / BOLTING	HT STEEL	HT STEEL

OTHER MATERIALS AVAILABLE ON REQUEST

## DESIGN DATA

STAINLESS STEEL		CAST STEEL		SIZE (N.B.)	DIMENSIONS					WEIGHT KG
PART NUMBER	PRICE	PART NUMBER	PRICE		A	B	C	D	E	
GBSQR25-R15-SS-FL		GBSQR25-R15-CS-FL		1" (25mm)	194	127	215	80	280	5
GBSQR40-R15-SS-FL		GBSQR40-R15-CS-FL		1.5" (40mm)	260	180	280	105	400	8
GBSQR50-R15-SS-FL		GBSQR50-R15-CS-FL		2" (50mm)	268	195	350	130	510	15
GBSQR65-R15-SS-FL		GBSQR65-R15-CS-FL		2.5" (65mm)	295	222	398	162	585	28
GBSQR80-R15-SS-FL		GBSQR80-R15-CS-FL		3" (80mm)	334	305	476	168	690	40
GBSQR100-R15-SS-FL		GBSQR100-R15-CS-FL		4" (100mm)	438	274	505	246	760	60
Not Available		Not Available		5" (125mm)	460	387	638	254	1100	77
GBSQR150-R15-SS-FL		GBSQR150-R15-CS-FL		6" (150mm)	498	467	714	254	1170	110
GBSQR200-R15-SS-FL		GBSQR200-R15-CS-FL		8" (200mm)	686	686	1030	360	1525	250

OTHER SIZES AND RATINGS AVAILABLE UPON REQUEST / PRICES IN POUNDS STERLING

# R/F – 150LB Rating Quick-Release Mono-Line Strainer

**Sizes:** ¾" to 12" Nominal Bore

**Pressure:** ANSI Class 150LB

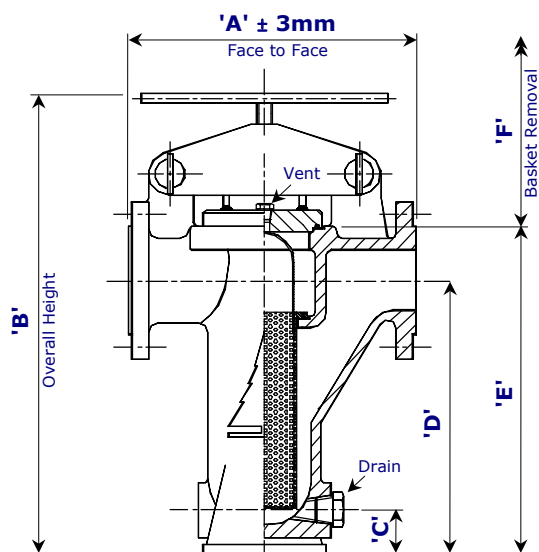
**Features:**

- Integrally Cast Housing.
- Quick-Release Closure.
- Red oxide Finish as standard.
- 40 Mesh Screen as Standard.
- Integral feet on 6" and over.

**Options:**

- Special Gasket, Special Basket,
- D.P. Tappings/Gauge,
- Magnetic Basket Insert,
- Flanged Drains / Drain Valves,
- Special Finish / Linings.

**Standards:** PED 97/23/EC.  
ANSI B16.5 Flange Dimensions.  
EN 10204 / NACE Certification.



All data is subject to confirmation at the time of order. Our policy is one of continual improvement and we reserve the right to amend details without prior notice.

Size		Dimensions						Basket Area (cm <sup>2</sup> )	Vent (NPT)	Drain (NPT)	Weight (KG)
		'A' Face to Face	'B' Overall Height	'C' Base to Drain	'D' Base to Centreline	'E' Base to Cover	'F' Basket Removal				
¾"	20	224.0	333.0	25.0	180.0	213.0	200.0	241.0	¼"	¾"	7.0
1"	25	225.0	345.0	28.0	190.0	225.0	200.0	241.0	¼"	¾"	13.5
1½"	40	240.0	420.0	35.0	254.0	297.0	275.0	375.0	¼"	¾"	19.0
2"	50	315.0	490.0	38.0	314.0	362.0	340.0	488.0	¼"	¾"	27.5
3"	80	365.0	570.0	40.0	342.0	411.0	375.0	652.0	3/8"	¾"	46.5
4"	100	445.0	695.0	47.0	426.0	505.0	450.0	1088.0	3/8"	1"	70.0
6"	150	600.0	990.0	95.0	619.0	734.0	630.0	2151.0	½"	1½"	167.0
8"	200	715.0	1190.0	112.5	787.0	927.0	800.0	3973.0	½"	1½"	310.0
10"	250	855.0	1415.0	120.0	908.0	1077.0	940.0	5304.0	½"	1½"	550.0
12"	300	1015.0	1570.0	175.0	1152.0	1367.0	1180.0	8295.0	½"	2"	600.0

Materials of Construction		
Item	Carbon Steel	Stainless Steel
Strainer Body (Cast)	ASTM A216 WCB	ASTM A351 CF8M
*Strainer Cover	ASTM A516 Gr60 / A216 WCB	ASTM A240 316 / A351 CF8M
Strainer Basket	ST.ST. 316 (40 Mesh as Standard / to Customer Specification)	
Cover Gasket (O-ring)	Nitrile as Standard / to Customer Specification.	
Vent Plug	ASTM A105N	ASTM A182 F316
Drain Plug	ASTM A105N	ASTM A182 F316
Strongback	ASTM A216 WCB	ASTM A351 CF8M
Screw Handle	ASTM A193 B7M - Zinc Plated / ST.ST. 316 Handle	
Quick Release Pin	BS 970 080 M40 - Zinc Plated	
Linch pin	Carbon Steel - Zinc Plated	

\* The Strainer cover may be furnished from Plate or Casting depending upon size / availability.

## Model Number Derivation: -

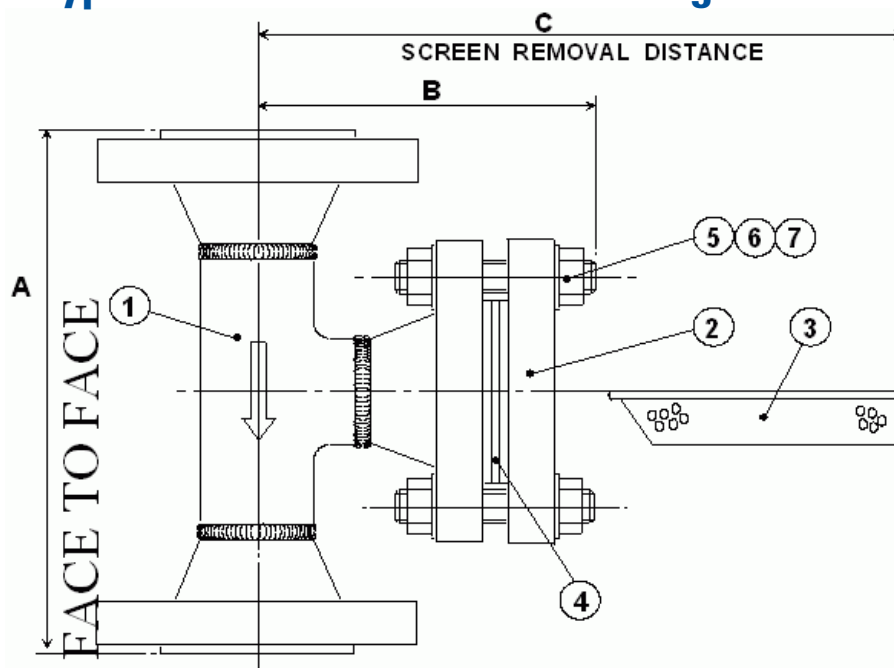
The model number can be derived as follows: - **A\*\*\*/R15/\*\*\*/MQR**

Denotes the size i.e. add '025' for a 1" ———

'216' denotes Carbon Steel

'351' denotes Stainless Steel

## T-Type Strainers Class 300LB – Flanged Connections



### Materials of Construction

Item	Part Description	Carbon Steel	Stainless Steel
1	Strainer body	ASTM A105N/A234 WPB	ASTM A182 F316/A403 WP316
2	Cover	ASTM A105N	ASTM A182 F316
3	Screen (0.8mm Holes as std.)	ST.ST. 316	ST.ST. 316
4	Gasket	C.N.A.F.	C.N.A.F.
5	Studbolts	ASTM A193 B7	ASTM A193 B7
6	Nuts	ASTM A194 2H	ASTM A194 2H
7	Washers	Carbon Steel	Carbon Steel
8	Flanged vent and drain	ASTM A105N	ASTM A182 F316L

### Additional Specifications.

Internal/External linings etc. Drain supplied when requested

Cover Davits supplied when requested. Special gaskets, valves etc available. Our policy is one of continuous improvement and we reserve the right to amend any details without prior notice. All data subject to confirmation at time of order.

### Design Data

Carbon Steel Part No.	Stainless Steel Part No.	Size (N.B.) in	mm	A	B	C	SCH	Wgt kg
BT50-R30-CS-FL	BT50-R30-SS-FL	2	50	270	186	322	40	22
BT80-R30-CS-FL	BT80-R30-SS-FL	3	80	334	229	399	40	37
BT100-R30-CS-FL	BT100-R30-SS-FL	4	100	385	258	463	40	59
BT150-R30-CS-FL	BT150-R30-SS-FL	6	150	489	313	592	40	105
BT200-R30-CS-FL	BT200-R30-SS-FL	8	200	582	368	712	40	170
BT250-R30-CS-FL	BT250-R30-SS-FL	10	250	672	425	827	40	247
BT300-R30-CS-FL	BT300-R30-SS-FL	12	300	772	482	954	STD	362
BT350-R30-CS-FL	BT350-R30-SS-FL	14	350	851	523	1046	30	491
BT400-R30-CS-FL	BT400-R30-SS-FL	16	400	904	558	1129	30	642
BT450-R30-CS-FL	BT450-R30-SS-FL	18	450	1007	613	1258	STD	790
BT500-R30-CS-FL	BT500-R30-SS-FL	20	500	1090	658	1364	20	966
BT600-R30-CS-FL	BT600-R30-SS-FL	24	600	1206	728	1529	20	1383
BT750-R30-CS-FL	BT750-R30-SS-FL	30	750	1540	919	1943	STD	2353
BT800-R30-CS-FL	BT800-R30-SS-FL	32	800	1588	1213	1640	STD	2650
BT900-R30-CS-FL	BT900-R30-SS-FL	36	900	1623	1083	2309	STD	3465

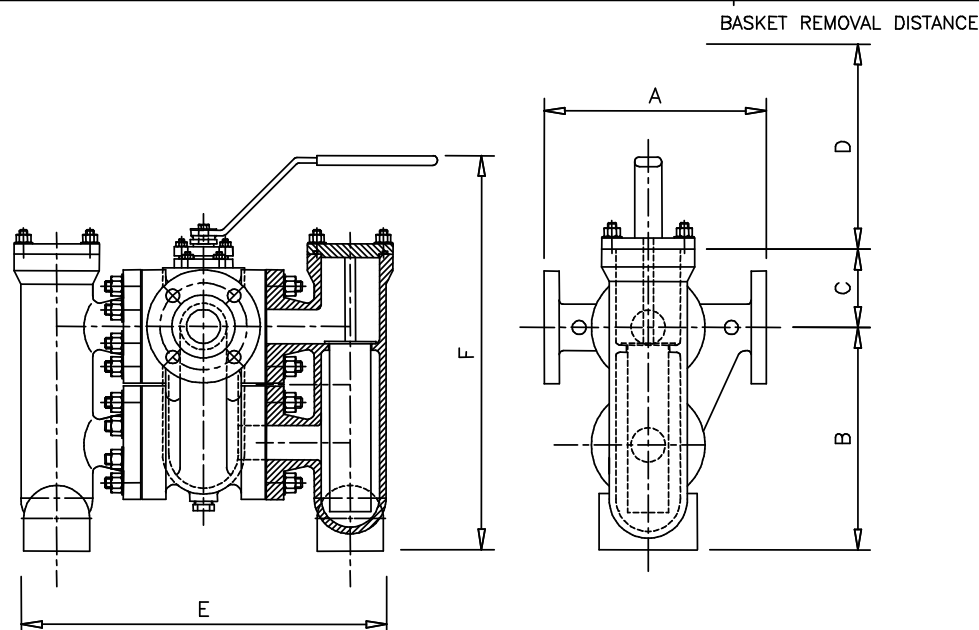
Other sizes and ratings available upon request.





**DUPLEX STRAINER**
**ANSI B16.5 150LB**
**1 off**

Data Sheet No:

**Q4251-1**


Our policy is one of continuous improvement  
and we reserve the right to amend any details  
without prior notice.

ALL DATA SUBJECT TO CONFIRMATION AT TIME OF ORDER

**MATERIALS OF CONSTRUCTION**

ITEM	PART DESCRIPTION	MATERIAL
1	Strainer Body	Super Duplex SS ASTM A351 CD3MWCuN (J93380)
2	Strainer Cover	Super Duplex SS -ASTM A240 UNS S32760
3	Filter Basket	Super Duplex SS UNS S32760- 3 mm Hole Perf
4	Trim	Super Duplex - UNS S32760
5	Valve Seats	PTFE
4	Seals	Viton
5	Bolting	ASTM A193 B7/ASTM A194 2H (Hot Dip Galvanised)

**DESIGN DATA**

TAG NUMBER	SIZE (n.b)	DIMENSIONS							PIPING CLASS	WEIGHT (Kg)
		A	B	C	D	E	F	G		
	25mm (1")	175	165	60	190	320	255			20

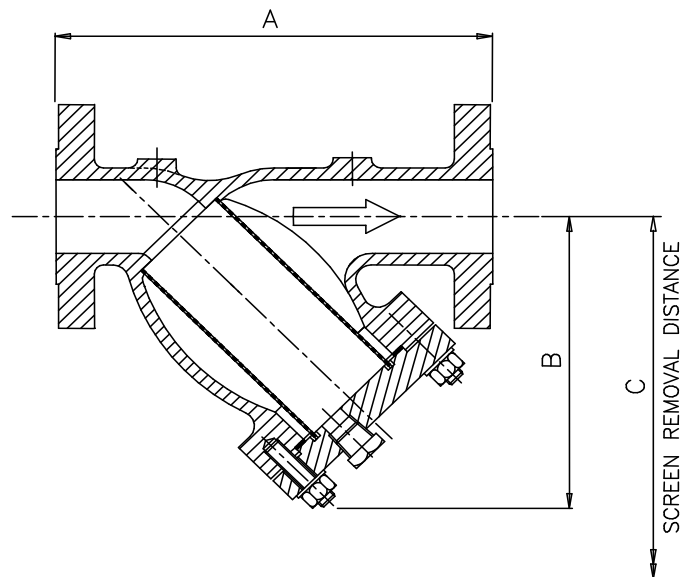
**PROCESS**

Service:	Seawater
Design Code	Manufacturers Standard
Operating Pressure / Temp.	
Design Pressure/ Temp	
Normal Flowrate:	
Fluid	Seawater
Density	1027 kg/m3
Pressure Drop (Clean)	
Max Allowable Pressure Drop	0.5 Bar.g
Basket Retention	3 mm
Corrosion Allowance	0 mm
Material Certification:	EN 10204 Type 3.1B + NACE



# Y-Type Strainers

Class 150 LB Flanged



Our policy is one of continuous improvement and we reserve the right to amend any details without prior notice.

**Additional Specifications**

Magnetic core baskets  
Dp gauges  
Internal/External linings etc.  
Size's 1 1/2" & below c/w screwed covers

ALL DATA SUBJECT TO CONFIRMATION AT TIME OF ORDER

## MATERIALS OF CONSTRUCTION

ITEM	PART DESCRIPTION	CARBON STEEL	STAINLESS STEEL
1	STRAINER BODY	ASTM A216 WCB	ASTM A351 CF8M
2	COVER	ASTM A216 WCB	ASTM A351 CF8M
3	SCREEN	ST.ST.304	ST.ST.304
4	GASKET	P.T.F.E.	P.T.F.E.
5	BOLTING	ASTM A193 B7/2H	STAINLESS STEEL
6	HEX HEAD PLUG	ASTM A216 WCB	ASTM A351 CF8M

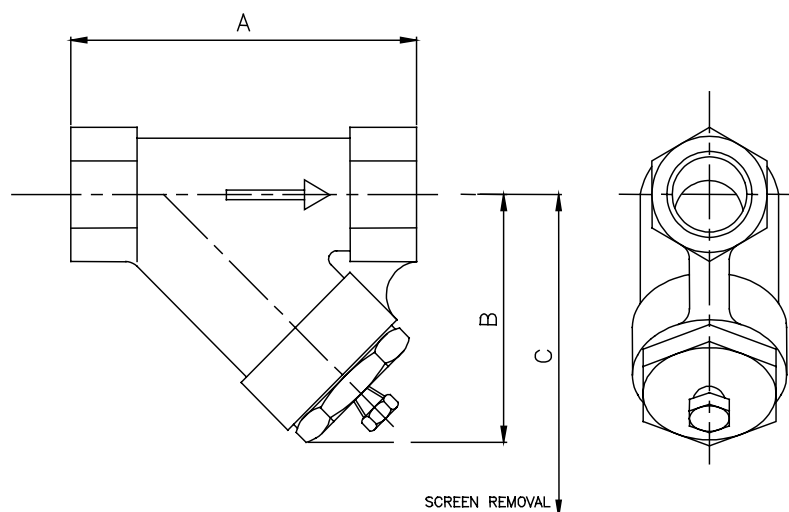
OTHER MATERIALS AVAILABLE ON REQUEST

## DESIGN DATA

CARBON STEEL		STAINLESS STEEL		SIZE (N.B.)	DIMENSIONS			DRAIN NPT	WEIGHT KG
PART NUMBER		PART NUMBER			A	B	C		
ICY015-R15-CS-FLG		ICY015-R15-SS-FLG		1/2" (15mm)	120	65	145	YES	2
ICY020-R15-CS-FLG		ICY020-R15-SS-FLG		3/4" (20mm)	140	75	180	YES	3
ICY025-R15-CS-FLG		ICY025-R15-SS-FLG		1" (25mm)	150	85	145	YES	5
ICY040-R15-CS-FLG		ICY040-R15-SS-FLG		1 1/2" (40mm)	190	105	180	YES	7
ICY050-R15-CS-FLG		ICY050-R15-SS-FLG		2" (50mm)	210	145	225	YES	10
ICY065-R15-CS-FLG		ICY065-R15-SS-FLG		2 1/2" (65mm)	250	167	225	YES	19
ICY080-R15-CS-FLG		ICY080-R15-SS-FLG		3" (80mm)	280	203	335	YES	20
ICY100-R15-CS-FLG		ICY100-R15-SS-FLG		4" (100mm)	340	235	395	YES	31
ICY125-R15-CS-FLG		ICY125-R15-SS-FLG		5" (125mm)	380	305	395	YES	38
ICY150-R15-CS-FLG		ICY150-R15-SS-FLG		6" (150mm)	420	310	550	YES	45
ICY200-R15-CS-FLG		ICY200-R15-SS-FLG		8" (200mm)	500	420	620	YES	90
ICY250-R15-CS-FLG		ICY250-R15-SS-FLG		10" (250mm)	730	440	640	YES	147
ICY300-R15-CS-FLG		ICY300-R15-SS-FLG		12" (300mm)	805	565	850	YES	220

## Y-Type Strainers

## Class 2500 LB Socket Weld/NPT



Our policy is one of continuous improvement and we reserve the right to amend any details without prior notice.

### Additional Specifications

**Additional Specifications**  
Magnetic core baskets  
Dp gauges

ALL DATA SUBJECT TO CONFIRMATION AT TIME OF ORDER

## MATERIALS OF CONSTRUCTION

ITEM	PART DESCRIPTION	CARBON STEEL	STAINLESS STEEL
1	STRAINER BODY	ASTM A105N	ASTM A182 F316
2	COVER	ASTM A105N	ASTM A182 F316
3	SCREEN	ST.ST.304/316	ST.ST.304/316
4	GASKET	Spiral Wound - St.St./Graphite	Spiral Wound - St.St./Graphite

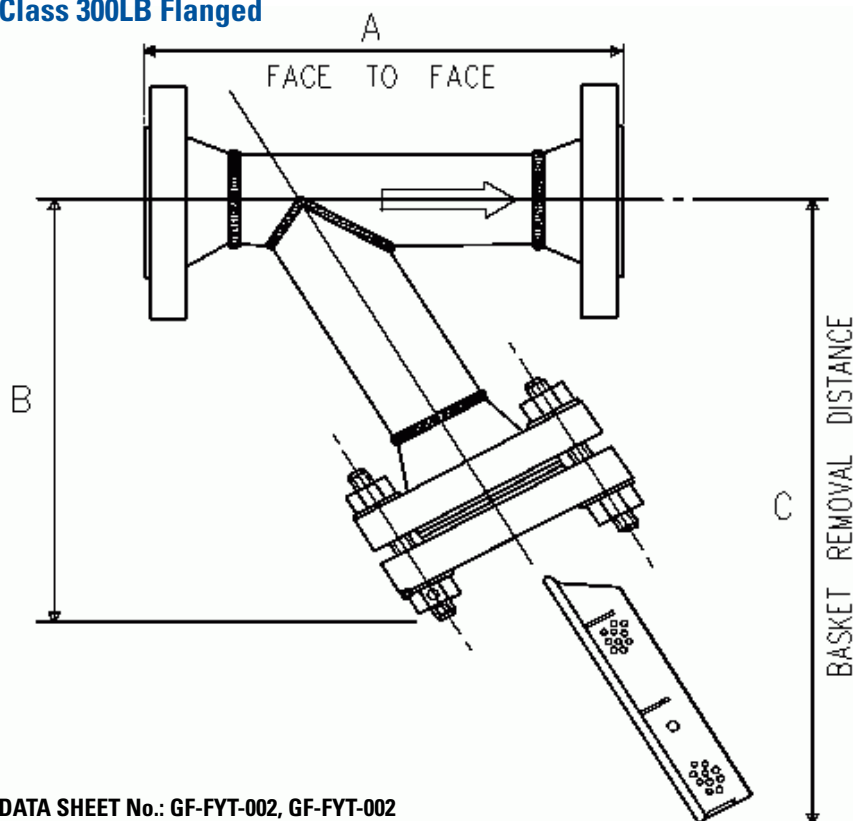
OTHER MATERIALS AVAILABLE ON REQUEST

## DESIGN DATA

[illegible]

## Fabricated Y-Type Strainers

### Class 300LB Flanged



**DATA SHEET No.:** GF-FYT-002, GF-FYT-002

Our policy is one of continuous improvement and we reserve the right to amend any details without prior notice.

### Additional Specifications

Dp tappings and gauges. Internal/External linings etc. Flanged vent/drain on most sizes.  
All data subject to confirmation at time of order

### Materials of Construction

Item	Part Description	Carbon Steel	Stainless Steel
1	Body Flange/Tube	ASTM A105N/A106B	ASTM A182 F316/A312
2	Cover	ASTM A105N	ASTM A182 F316
3	Basket	ST.ST.316	ST.ST.316
4	Gasket	Graphite	Graphite
5	Bolts and nuts	ASTM A193 B7/A194 2H	ASTM A193 B7/A194 2H

### Design Data

Part No.		Size (N.B.)		Dimensions			Wgt
Carbon Steel	Stainless Steel	in	mm	A	B	C	Kg
YT050-R30-CS-FLG	YT050-R30-SS-FLG	2	50	290	250	400	20
YT080-R30-CS-FLG	YT080-R30-SS-FLG	3	80	380	320	500	44
YT100-R30-CS-FLG	YT100-R30-SS-FLG	4	100	420	350	575	60
YT150-R30-CS-FLG	YT150-R30-SS-FLG	6	150	520	470	775	100
YT200-R30-CS-FLG	YT200-R30-SS-FLG	8	200	610	560	975	165
YT250-R30-CS-FLG	YT250-R30-SS-FLG	10	250	740	665	1200	240
YT300-R30-CS-FLG	YT300-R30-SS-FLG	12	300	820	770	1400	355
YT350-R30-CS-FLG	YT350-R30-SS-FLG	14	350	880	845	1500	456
YT400-R30-CS-FLG	YT400-R30-SS-FLG	16	400	1246	950	1650	592

Other sizes and ratings available upon request.

## R/F – 300LB Rating Medium Duty 'Y'-Type Strainer

**Sizes:** ½" to 12" Nominal Bore

**Pressure:** ANSI Class 300LB

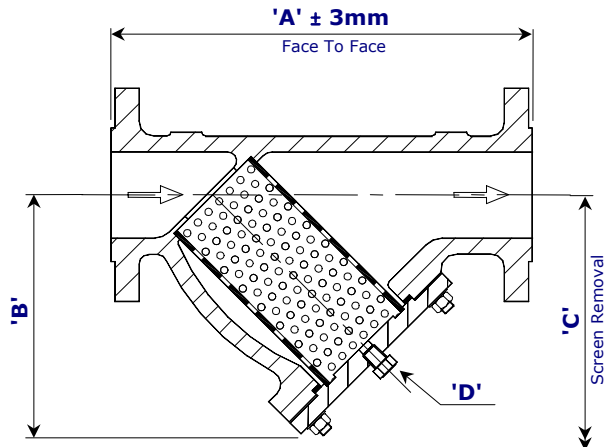
**Features:**

- Integrally Cast Housing.
- Bolted Cover c/w Drain Plug.
- Red oxide Finish (Carbon Steel).
- 40 Mesh Screen as Standard.

**Options:**

- Special Gasket, Special Screen
- D.P. Tappings/Gauge,
- Magnetic Screen Insert,
- Flanged Drains / Drain Valves,
- Special Finish / Linings.

**Standards:** PED 97/23/EC  
ANSI B16.5 Flange Dimensions.  
EN 10204 / NACE Certification.



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reserve the right to amend details without prior notice.

Size		Dimensions				Screen Area (cm <sup>2</sup> )	Weight (KG)
		'A' Face to Face	'B' Base to Centre line	'C' Screen Removal	'D' Drain (NPT)		
½"	15	175.0	95.0	165.0	½"	80.0	3.5
¾"	20	175.0	95.0	165.0	½"	80.0	4.5
1"	25	195.0	110.0	185.0	½"	126.5	6.5
1½"	40	275.0	140.0	230.0	½"	199.0	11.5
2"	50	315.0	180.0	285.0	½"	333.0	18.0
3"	80	405.0	220.0	355.0	½"	574.5	35.5
4"	100	490.0	260.0	410.0	½"	923.4	65.5
6"	150	582.0	340.0	552.0	½"	1894.0	125.0
8"	200	730.0	440.0	705.0	¾"	2870.0	233.0
10"	250	910.0	600.0	1000.0	¾"	5000.0	420.0
12"	300	1070.0	640.0	1040.0	¾"	6375.0	445.0

Materials of Construction		
Item	Carbon Steel	Stainless Steel
Strainer Body (Cast)	ASTM A216 WCB	ASTM A351 CF8M
*Strainer Cover	ASTM A516 Gr60 / A216 WCB	ASTM A240 316 / A351 CF8M
Drain Plug (Forged)	ASTM A105N	ASTM A182 F316
Cover Studbolts	ASTM A193 B7M - Zinc Plated	
Cover Full Nuts	ASTM A194 2HM - Zinc Plated	
Cover Gasket (Flat)	C.N.A.F. as Standard / to Customer Specification	
Screen (Perforated)	ST.ST. 316 (40 Mesh as Standard / to Customer Specification)	

\* The Strainer cover may be furnished from Plate or Casting depending upon size / availability.

### Model Number Derivation: -

The model number can be derived as follows: - **A\*\*\*/R30/\*\*\*/YMD**

Denotes the size i.e. add '025' for a 1" \_\_\_\_\_

'216' denotes Carbon Steel

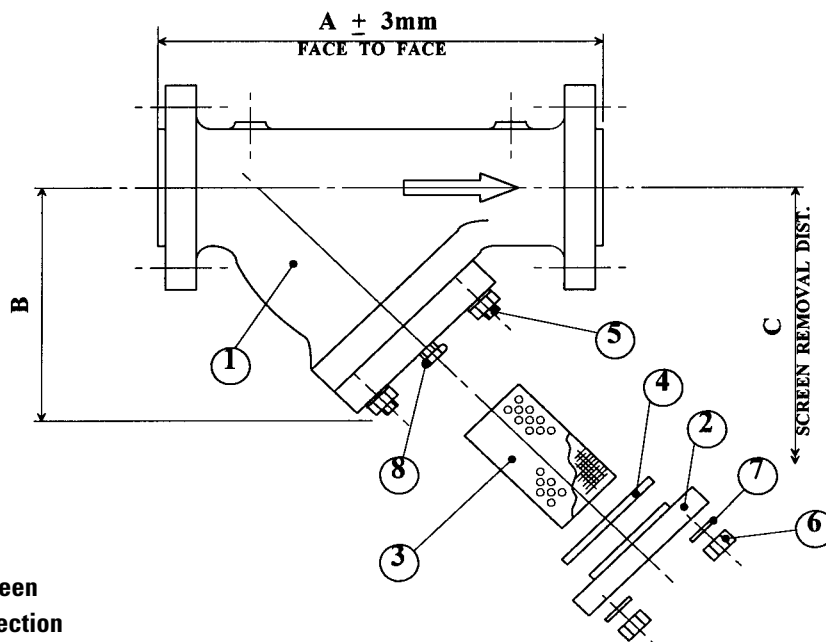
'351' denotes Stainless Steel



## R/F – 1500LB Rating Heavy-Duty 'Y'-Type Strainer

Flanges in accordance with ANSI B16.5

- Other specifications available upon request



### OPTIONAL EXTRAS

- Special Gasket
- Special Screen
- Cover safety cowl.
- D.P. Tapping/Gauge
- Magnetic Insert Screen
- Flanged Drain Connection
- Drain Valves
- Special Finishes/Linings
- Certification To 3.1B/3.1C/N.A.C.E.

All data subject to confirmation at time of order. Our policy is one of continuous improvement and we reserve the right to amend any details without prior notice.

### Specifications

Model/Assembly Number		Size (N.B.)	Dimensions			Screen		Drain NPT	Weight kg
Carbon Steel	Stainless Steel	mm	A	B	C	Mesh	cm <sup>2</sup>		
A025-R150-216-YHD	A025-R150-351-YHD	25 mm	340	190	225	40 Mesh or to customer requirements	164.0	1/2"	21.0
A040-R150-216-YHD	A040-R150-351-YHD	40 mm	415	210	225		327.0	1/2"	45.0
A050-R150-216-YHD	A050-R150-351-YHD	50 mm	415	210	225		327.0	1/2"	45.0
A080-R150-216-YHD	A080-R150-351-YHD	80 mm	495	245	295		532.0	1/2"	139.0
A100-R150-216-YHD	A100-R150-351-YHD	100 mm	655	335	415		905.0	1/2"	148.0
A150-R150-216-YHD	A150-R150-351-YHD	150 mm	935	492	610		2150.0	1/2"	516.0
A200-R150-216-YHD	A200-R150-351-YHD	200 mm	1085	630	725		3790.0	1/2"	895.0
A250-R150-216-YHD	A250-R150-351-YHD	250 mm	1320	745	920		4830.0	1/2"	1220.0

### Materials of Construction

ITEM No	Description	Carbon Steel	Stainless Steel
01	Strainer Body	ASTM A216 WCB	ASTM A351 CF8M
02	Cover	BS 1501 151 430A	BS 970 316 S31
03	Screen	AISI 316	AISI 316
04	Gasket (Spiral wound)	ST.ST. 316/CAF	ST.ST. 316/CAF
05	Studbolts	ASTM A193 B7 (Zinc Plated)	ASTM A193 B7 (Zinc Plated)
06	Retaining Nuts	ASTM A193 2H (Zinc Plated)	ASTM A193 2H (Zinc Plated)
07	Plain Washers	STEEL (Zinc Plated)	STEEL (Zinc Plated)
08	Drain Plug	ASTM A105N 2H (Zinc Plated)	ASTM A182 F316

## TOP-HAT Strainer Type F-340



- Enkle grove filterelement for innmontering mellom rørflenser
- Montering uten hus
- Fås med forskjellig filtreringsgrad.
- Laget i rustfritt materiale for lang levetid.
- Kan leveres i spesial materiale
- For ANSI eller DIN flenser

## Referanser



Diesel Filter Coalescer Package.



Fire Water Strainer Stattford B and C.



3" Duplex Filter for Norne.



Brannvannstrainer Kristin Plattform.





Seawater Filter Package



Diesel filterpakke  
Kashagan.

Client/Customer	Equipment - supplied	Plant	Company	Year
Aibel	4" Basket Strainer (25Cr Duplex)	Ekofisk	ConocoPhillips	2009
Fabricom	Y-Strainer (25Cr Duplex)	Ekofisk	ConocoPhillips	2009
Fabricom	Filters for Scale Inhibitor (SS316)	Snorre A	StatoilHydro	2009
StatoilHydro	2" - 4" Drain Water Strainers (Carbon Steel)	Norne	StatoilHydro	2009
Aker Solutions	8" T-Strainer for Produced Water (22Cr Duplex)	Troll C	StatoilHydro	2009
Aibel	8" Y-Strainers for Seawater (Titanium)	Oseberg E	StatoilHydro	2009
Bjerge Eureka	6" Seawater Strainers (22Cr Duplex)	Valhall	BP	2009
Transocean Off-shore	Air Intake Filters (Aluminium)	T.O. Winner	Transocean	2009
Aker Kværner	T-Strainers	Gulfaks	StatoilHydro	2008
Aibel	6" T-Strainers (Carbon Steel)	Statfjord A	StatoilHydro	2008
StatoilHydro	12" Water Strainer (Carbon Steel)	Veslefrikk	StatoilHydro	2008
Aker Offshore Partner	T-strainers	Troll C	StatoilHydro	2008
Aker Offshore Partner	4" Drain Water Inlet Filters (22Cr Duplex)	Troll B	StatoilHydro	2008
IKM Testing	Qty. 4 off Filterskids (SS316)		IKM Testing	2008
Aker Kværner	Filters & Strainers (Carbon Steel / SS316 / 25Cr duplex)	Skarv	BP	2008
Odjell Drilling	8" Basket Strainer (Carbon Steel)	Heidrun	Odjell	2008
Aker Kværner	Meg & Seawater Strainers (Titanium)	Alve Norne	StatoilHydro	2008
Reinertsen	Special Low DP Firewater Strainers (Titanium)	Kristin	StatoilHydro	2007
Aibel	Produced Water Strainer & Glycol Filter	Ettrick		2007
Propure	High pressure filters (SS316)			2007
TCO Tengiz	Caustic Filters	Kashagan	TCO Tengiz	2007
Seadrill Offshore	10" Anti Fouling Vessel & 10" Basket Strainers	West Epsilon	Seadrill	2007
Aibel	Automat Filter	Sleipner B	StatoilHydro	2007
Aker Kværner	Seal Pots, Bird Screen & Div. Strainers	Ula		2007
Reinertsen Engineering	Slipstream Filter	Heimdal	Hydro	2006
Vetco AS	Water Filter Package	Ettrick	Bluewater	2006
Vetco AS	Annulus Test Skid Filters	Ormen Lange	Hydro	2006
Aker Kværner	In-Line strainers	H6-rigg	Aker Drilling	2006
Vetco	16" Firewater/Seawater Y-type strainer	Snorre A	Statoil	2006

Client/Customer	Equipment - supplied	Plant	Company	Year
Aker Kværner	Lean TEG Filtre	Troll C	Statoil	2006
Aker Kværner	20" Seawater Filter	H6-rigg	Aker Drilling	2006
Vetco Aibel	8" Molsieves Filter	Kollsnes	Statoil	2006
GE Energy	4" Duplex filter for kjølevann	Sør Korea	GE Energy	2006
Jøtul	2" Duplex Inline Filter	Jøtul, Fredriks- tad		2006
Aker Kværner	Service water feed Filter	Kashagan	Agip	2005
GE Energy	PVS 2700 special made oil purification	Cheongsong, S. Korea		2005
Statoil	2" Diesel Filter	Kårstø	Statoil	2005
Aker Kværner	Diesel Filter skid	Kashagan	Agip	2005
Vetco AS	18" Automatic Backflush Filter	Alvheim	Marathon	2005
Ahlsell Oil & Gas AS	14"-150# End Line Flame Arrester in titanium	Troll A	Statoil	2005
Aker Kværner	10"- 2x100% strainers for produced water	Oseberg Field- center	Norsk Hydro	2005
Vetco Aibel	10" Seawater filter Automatic backflushing	Sture Terminal	Norsk Hydro	2005
Vetco Aibel	Methanol filter	Oseberg	Norsk Hydro	2005
Aker Kværner	Cooling Medium Filters	Gulfaks A	Statoil	2005
Fabricom	Firewater Strainers	Statfjord B & C	Statoil	2005
Vetco Aibel	Glycol & Carbon Filter	Chinguetti		2005
Aker Kværner	28" Tee titanium	Kristin	Statoil	2005
Skretting	Knivfilter for ensilasje	Stavanger		2005
Frank Mohn	Duplex high pressure hydraulic filters			2005
Norsk Hydro	4" Magnet Filter for Magnetite	NA	Norsk Hydro	2004
Smedvig	TD9 900 støvfilter	BP	Smedvig	2004

# Kritiske kriterier ved nye filterløsninger

## Prosess data

- **Medium**
- **Partikler**
- **Partikkelinnhold**
- **Tetthet væske**
- **Tetthet partikler**
- **Viskositet ved operasjonstemperatur**
- **Kjemiske sammensetninger**
- **Operasjonstemperatur**
  - 1. Normal
  - 2. Maks
- **Operasjonstrykk**
  - 1. Normal
  - 2. Maks
- **Strømningsmengde l/min.**
- **Partikkelstørrelse**

## Filterdata

- **Materiell filterelementer**
- **Materiell filterhus**
- **Materiell pakning**
- **Tilslutning**
- **Innløp/utløp**
- **Avløp**
- **Luftekanal**
- **Posisjonering**
- **Suge/avløps pumpe**

### Maks trykkfall:

- 1. Rent filter element
  - 2. Skitten filter element
- **Påkrevet testing**
- **Påkrevet dokumentasjon**



# Prosessfilter systemdata

<input type="checkbox"/> Duplex filter, change over		<input type="checkbox"/> Single filter	
Calculation according to:		<input type="checkbox"/> PED/AD2000	<input type="checkbox"/> ASME <input type="checkbox"/> API
			<input type="checkbox"/> U-STAMP
Regulations or. Classifications (e.g.: according to GL, ABS): _____			
Design:		<input type="checkbox"/> EX-Protection/ATEX _____	
Medium (e.g.: ISO VG 46 or Composition): _____			
Viscosity:		_____ cst by _____ °C	
Flow (Volume flow):		_____ l/min	
Operating pressure:		_____ bar	Test Pressure: _____ bar
Operating temperature:		_____ °C	Start-up Temperature: _____ °C
Filterfiness and Material:		_____ micron	
Specified Filter Surface/Area:		_____ cm²	
Housing material:		<input type="checkbox"/> Housing <input type="checkbox"/> Internal Change-over <input type="checkbox"/> Change-over Housing	
Connection:		<input type="checkbox"/> SAE <input type="checkbox"/> DIN Form-C <input type="checkbox"/> DIN Form-E	<input type="checkbox"/> ANSI <input type="checkbox"/> RF = Raised Flange <input type="checkbox"/> FF = Flat Facing <input type="checkbox"/> Tongue and Groove
Connection Size: _____			
Air Bleeding:		<input type="checkbox"/> in Housing	<input type="checkbox"/> in Header
Air bleeder- and Drain Connection:		<input type="checkbox"/> Thread <input type="checkbox"/> ANSI <input type="checkbox"/> SAE	_____
Clogging Indicator:		<input type="checkbox"/> visual <input type="checkbox"/> electrical	<input type="checkbox"/> electrical <input type="checkbox"/> visual/electrical
Sealing material:		<input type="checkbox"/> NBR (Perbunan)	<input type="checkbox"/> FPM (Viton) Other: _____
Shut-off valve:		<input type="checkbox"/> yes	<input type="checkbox"/> no
Bleeding valves:		<input type="checkbox"/> yes	<input type="checkbox"/> no
Drain valves:		<input type="checkbox"/> yes	<input type="checkbox"/> no
Counterflange:		<input type="checkbox"/> yes	<input type="checkbox"/> no



# 3.0

# Luftbehandling

3.1	Filterets oppbygging	2
3.2	Ventilasjon HVAC	5
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## Filterets oppbygging

Filtrene kan ha forskjellig design og oppbygging. De vanligste er: Filterduk, Posefilter, kompakt filter og absolutt filter (HEPA).

Filterelementene kan deles inn i 2 grupper:

### Dybdefiltrering

Med syntetisk ikke-vevd filter media: Lavt trykkfall pga. høy porøsitet, tykkelse og stor smuss-holdskapasitet i filtermediet.

- Med glassfiber papir som medium: Lavt trykkfall pga høyt filter areal
- Pålitelig og vedlikeholds fri drift.
- Fås som Posefilter eller Kompaktfiltre

### Overflatefiltrering

- Relativt høyt trykkfall grunnet lav porøsitet og tykkelse av mediet.
- Høye støvkonsentrasjoner behøves for å bygge opp «støvkake»
- Etter at «støvkaken» på filteret er fjernet kan filtreringen fortsette som før.
- Kan brukes selv i ekstreme støvsituasjoner (ørkenområder/steinknuseri etc)
- Smussholdskapasitet er av mindre betydning siden støvet kan fjernes.
- Høy fuktighet eller tåke kan binde støvpartiklene til filteroverflaten slik at rengjøring blir vanskelig.



### Filtreringsklasser

	Forfiltrering				Finfiltrering/komfortfiltrering					Høyeffektiv filtrering					
	Grovfilter				Finfilter					HEPA					ULPA
EN 779:2002	Gjennomsnittlig partikkelopptak				Gjennomsnittlig svertningsgrad					MPPS (Most penetrating Particle Size)					
Eurovent 4/5	<65%	65<80%	80<90%	90%<	40<60%	60<80%	80<90%	90<95%	95%<	>85%	>95%	99,5%	>99,95%	>99,995%	>99,99995%
Eurovent 4/4	G1	G2	G3	G4	F6	F7	F7	F8	F9						
EN1822		EU2	EU3	EU4	EU5	EU6	EU7	EU8	EU9						
	Filtermatter/filterruller									EU10	EU11	EU12/13	EU14		
										H10	H11	H12	H13	H14	U15 U16 U17
	Posefilter				Kompakt/kassett filter					HEPA/ULPA-filtre					

## Ventilasjon HVAC



Ventilasjon skal sørge for å tilføre ren luft for å sikre god luftkvalitet, fjerne lukt, forurensninger og fuktighet. Den skal også hindre kondens på vinduer og i vegger slik at sopp, mugg og råteskader unngås.

Det finnes tre hovedtyper ventilasjonssystem:

1. Naturlig ventilasjon
2. Mekanisk avtrekk
3. Balansert ventilasjon

Filtrene har til oppgave å:

- Filtrere ut skadelige partikler for mennesker og utstyr
- Hindre spredning av pollen og organiske substanser i bygget
- Hindre inntregning av støv /sot
- Beskytte mekaniske deler i aggregater (spesielt avtrekksluften)
- Hindre at kanalnett forurenses.

### Krav til filter elementer

Luffilter er til tross for sin enkle oppbygging et ganske avansert produkt. Det skal kunne:

- Slippe gjennom rett luftmengde
- Filtrere vekk ønsket partikkelstørrelse
- Ikke ha for stort trykkfall
- Fungere uten feil i forventet levertid
- Være økonomisk i innkjøp og i "Life cycle cost" (LCC)

### Filterklasser

Filtrene blir klassifisert etter svertningsgrad i og/ eller utskillingsgrad %.

Filtrene deles inn i 3 generelle klasser:

- Grov filter / Forfilter    G1 – G4
- Finfilter    F5 – F9
- Absolutt filter    H10 – U17

# Forutsetninger, standarder, kriterier for valg av filter

## Luftens kvalitet

En økende bevissthet for miljø og helse har bidratt til at kvalitativ filtrering og innåndingsluften i ventilasjonsanlegg har fått enorm betydning. Ventilasjonsanlegg trenger luftfilter for å rense til- luften, filterne har som hovedoppgave å minimere mengden av forurensede elementer som kommer inn i bygninger via luftstrømmen.

Forurenset luft inneholder to typer partikler. Naturlige partikler i størrelse  $> \mu\text{m}$ , disse har sin opprinnelse i jordoverflatens erosjoner. Denne størrelseskategorien omfatter også pollen, sporer og visse typer bakterier. Mer vanlig forekommende partikler er de sykdomsfremkallende organiske partiklene i størrelsen  $< 2 \mu\text{m}$ . De fleste av disse partiklene stammer fra industri- og forbrenningsprosesser samt fra veitrafikk.

## Standarder innen luftfiltrering

Luftfilter er vanligvis klassifisert under Europeisk standard SS-EN 779, som skiller mellom grovfilter (filterklasse G1-G4) og finfilter (filterklasse F5-F9). Grovfilter blir evaluert etter sin gravimetriske utskillingsevne, mens finfilter evalueres etter sin effektivitet på atmosfæriske aerosoler. Som et alternativ til SS-EN 779 finnes fraksjonsavskillingstesten EUROVENT 4/9. Med denne målemetode evaluerer man avskillingsgraden på individuelle partikkelstørrelser. Den tilsvarende standarden for HEPA- og ULPA-filter heter SS-EN 1822. Her klassifiseres filteret etter avskillingsgraden ved MPPS, som viser avskillingsgradens minimum. (MPPS er forkortelse for Most Penetrating Particle Size).

## Avgjørende kriterier for valg av luftfilter

Filterklassen er det fremste og viktigste kriteriet for valg av luftfilter som benyttes i ventilasjonsanlegg. Foruten nødvendig filtreringsevne er støvlagringsevne og trykkfall (starttrykkfall så vel som under driftstiden) avgjørende faktorer ved vurdering av et filters kostnadseffektivitet.

Å velge riktig filter er et kompromiss mellom filtreringsprestasjon og kostnader gjennom levetiden. Billige luftfilter f.eks, har som regel høyere trykkfall og kortere livslengde, hvilket medfører betydelig høyere driftskostnader for sluttbrukeren enn filter med vel avveide filtreringsegenskaper.

# 3.2

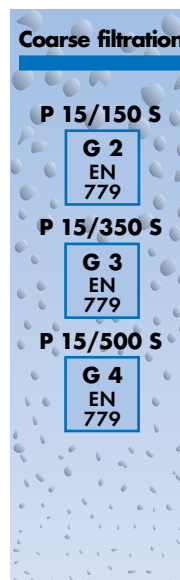
# Ventilasjon

# HVAC





## The P 15 series: The ultra-durable filter mats Filter classes G 2 - G 4



### The application

The P15 series comprises the following familiar and yet continually enhanced Viledon filter mats:

- ▶ P 15/150 S
- ▶ P 15/350 S
- ▶ P 15/500 S

All the types in this series are tough, high performance products, suitable for filtration in all kinds of ventilation systems.

### The media and their characteristic features

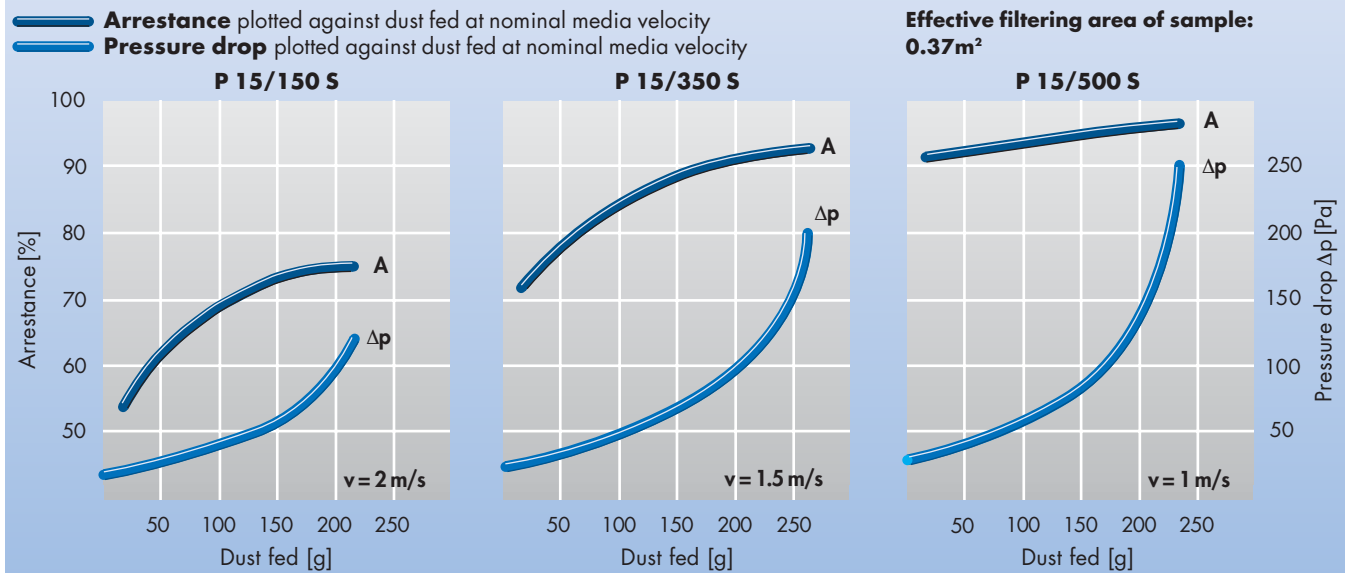
- ▶ The mats are made of **high performance nonwovens produced inhouse** from elastic, break-resistant polyolefine fibers with thermal bonding.
- ▶ P 15/350 S and P 15/500 S are **progressive in structure**, with layers being arranged behind each other so as to ensure that the density of the fiber layers increases towards the clean air side. This optimizes the defined filter performance and the dust holding capacity, resulting in **longer useful lifetime for the filter** concerned.
- ▶ **Fire behaviour:** Viledon filter media satisfy the stringent requirements of Fire Class F1 according to DIN 53 438 and are thus **self-extinguishing**.
- ▶ **Certified quality:** P 15 filter mats have been **tested according to EN 779** and are manufactured under our certified quality management system to ISO 9001. This offers all users the reassuring certainty that all filters will be supplied in consistently high standardized quality, documented by marking the filter mat with brand name, type designation and filter class.

		P 15/150 S	P 15/350 S	P 15/500 S
▶ Weight, approx.	g/m <sup>2</sup>	100	200	350
▶ Thickness, approx.	mm	8	14	20
▶ Thermal stability	°C	up to 100	up to 100	up to 100
▶ Moisture resistance, rel. humidity	%	up to 100	up to 100	up to 100
▶ Supplied as rolls, useful width/length	mm/m	2000/40	2000/30	2000/20
▶ Supplied as cut pieces	mm	Pieces cut to customer's specification		

### The special features of the P 15 series

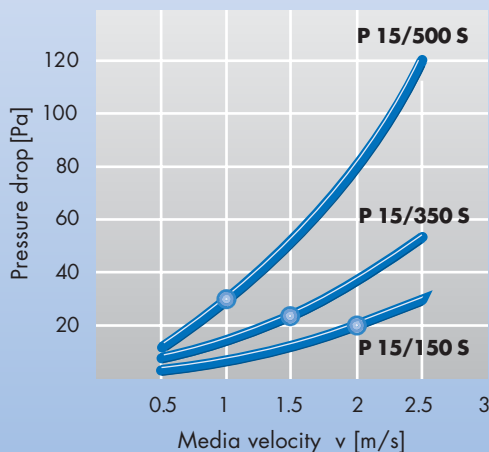
- ▶ High arrestance throughout their entire useful lifetime, thus providing **maximized operational reliability**.
  - ▶ The **high mechanical strength** of the material used offers **good dimensional stability** throughout the **operational lifetime**, even when handling large air volumes, thus ensuring dependable operation of the filter system concerned.
  - ▶ Thanks to the polyolefine fibers used in the medium, P 15 filter mats are **widely resistant to chemicals** like solvents, acids and alkalis. They must be protected against continuous UV radiation.
  - ▶ The filter mats are **cleanable by careful washing, beating or spraying**. Even after washing, the filter mats remain dimensionally stable, thus retaining their technical filtering properties.
- Our environment-friendly filter series for users interested in **avoiding waste and cutting their filter costs**.

## Technical filter test data in accordance with EN 779



### Pressure drop

plotted against the media velocity  
● nominal media velocity



			<b>P 15/150 S</b>	<b>P 15/350 S</b>	<b>P 15/500 S</b>
▶ Average arrestance	$A_a$	%	67	85	94
▶ Initial efficiency	$E_i$	%	< 20	< 20	< 20
▶ Nominal media velocity	●	m/s	2	1.5	1
▶ Initial pressure drop		Pa	20	25	30
▶ Final pressure drop*		Pa	250	250	250
▶ Dust holding capacity		g/m <sup>2</sup>	600	600	600

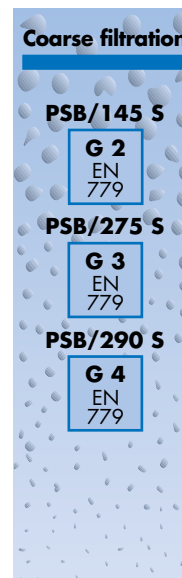
\* For cost-efficiency or system-specific reasons it may be appropriate to change the filters before reaching the stated final pressure drop.

The figures given are mean values subject to tolerances due to the normal production fluctuations. Our explicit written confirmation is always required for the correctness and applicability of the information involved in any particular case.

You will find instructions on how to handle and dispose of loaded filters in our information on product safety and eco-compatibility.

Subject to technical alterations.

## The PSB series: The classic filter mats Filter classes G 2 - G 4



### The application

The PSB series comprises the following types:

- ▶ PSB/145 S
- ▶ PSB/275 S
- ▶ PSB/290 S

PSB filter mats are used for intake air filtration in all kinds of ventilation systems, particularly for coarse dust arrestance and as pre-filter stages.

### The media and their characteristic features

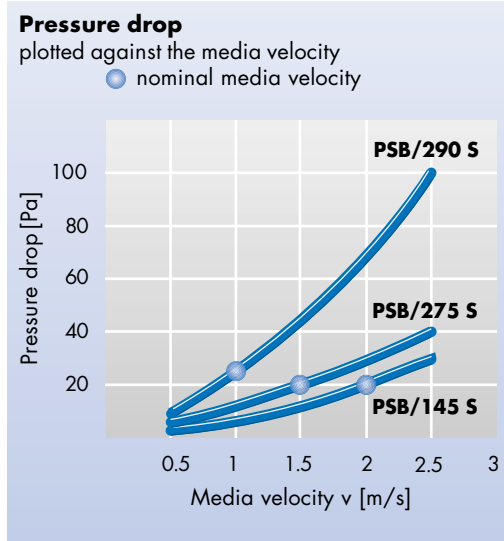
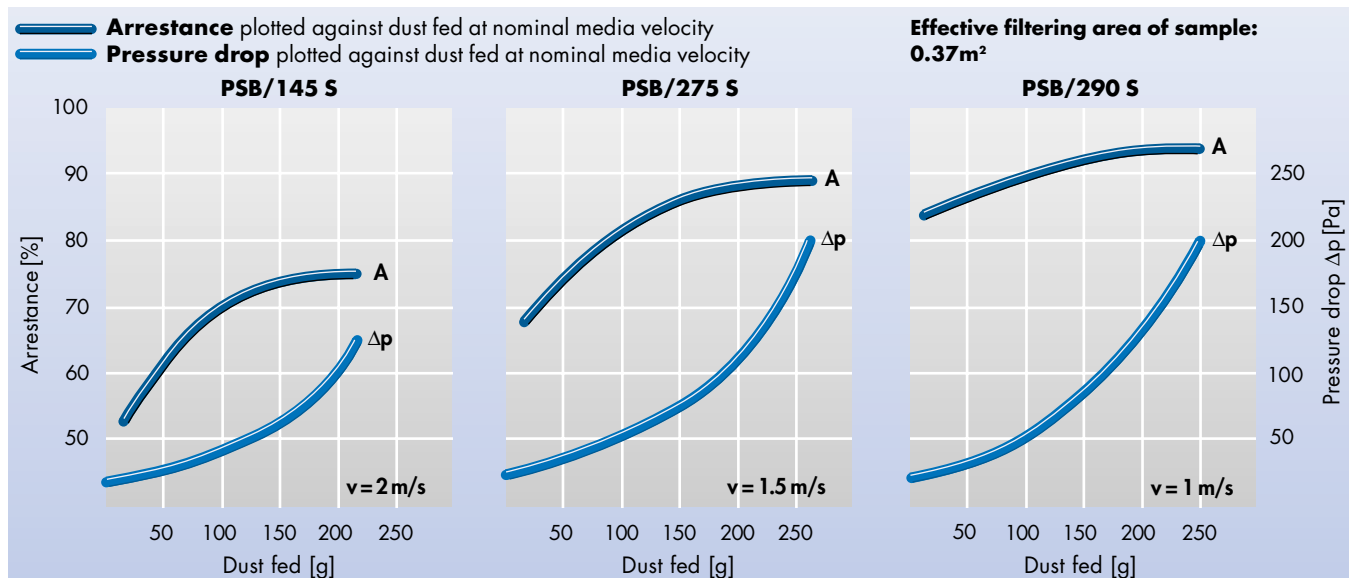
- ▶ The mats are made of **high performance nonwovens produced inhouse from elastic, break-resistant polyester fibers with thermal bonding.**
- ▶ PSB/275 S and PSB/290 S are **progressive in structure**, with layers being arranged behind each other so as to ensure that the density of the fiber layers increases towards the clean air side. This optimizes the defined filter performance and the dust holding capacity, resulting in **longer useful lifetime for the filter** concerned.
- ▶ **Fire behaviour:** Viledon filter media satisfy the stringent requirements of Fire Class F1 according to DIN 53438 and are thus **self-extinguishing.**
- ▶ **Certified quality:** PSB filter mats have been **tested according to EN 779** and are manufactured under our certified quality management system to ISO 9001. This offers all users the reassuring certainty that all filters will be supplied in consistently high standardized quality, documented by marking the filter mat with brand name, type designation and filter class.

		PSB/145 S	PSB/275 S	PSB/290 S
▶ Weight, approx.	g/m²	120	180	300
▶ Thickness, approx.	mm	10	15	20
▶ Thermal stability	°C	up to 100	up to 100	up to 100
▶ Moisture resistance, rel. humidity	%	up to 100	up to 100	up to 100
▶ Supplied as rolls, useful width/length	mm/m	2000/40	2000/30	2000/20
▶ Supplied as cut pieces	mm	Pieces cut to customer's specification		

### The special features of the PSB series

- ▶ Due to their **high dust holding capacity** and their **resultant long useful lifetimes**, PSB filter mats are **particularly cost-efficient.**
- ▶ All types of this series are especially effective in applications requiring **stable arrestance in spite of high dust loading and high air flow rates.**
- ▶ When used in exhaust air filtration, the advantage of the PSB series is that **arrestance and dust holding capacity are very well harmonized.**

## Technical filter test data in accordance with EN 779



			<b>PSB/145 S</b>	<b>PSB/275 S</b>	<b>PSB/290 S</b>
▶ Average arrestance	$A_a$	%	67	83	91
▶ Initial efficiency	$E_i$	%	< 20	< 20	< 20
▶ Nominal media velocity	●	m/s	2	1.5	1
▶ Initial pressure drop		Pa	20	20	25
▶ Recommended final pressure drop		Pa	125	200	200
▶ Dust holding capacity		g/m <sup>2</sup>	400	600	620

The figures given are mean values subject to tolerances due to the normal production fluctuations. Our explicit written confirmation is always required for the correctness and applicability of the information involved in any particular case.

You will find instructions on how to handle and dispose of loaded filters in our information on product safety and eco-compatibility.

## Filtermedia CM-360, CM-White, CM-1000

**Applikationer:** CM - förfiltermedia i ventilationsanläggningar.

CM-1000 - takfilter i sprutboxar.

**Typ:** Progressivt oppbyggt filtermedia.

**Media:** Syntetfibrer, polyester.

**Filterklass enligt EN 779:2002:** G4, F5.

**Rekommenderat sluttryckfall:** 250 Pa.

**Temperatur:** CM - 70°C, CM-1000 - 100°C max.

Artikelnnummer	Typ	Dimensioner (BxL) m	Filterklass enl. EN 779:2002	Ytvikt g/m <sup>2</sup>	Tryckfall Pa / fronhastighet 1m/s	Enhetsvikt kg	Enhetsvolym m <sup>3</sup>
003040	CM-360	1,0x20	G4	190	30	7	0,35
003042	CM-360	2,0x20	G4	190	30	14	0,7
003003	CM-White	1,0x20	G3	612	29	12	0,4
003002	CM-White	2,0x20	G3	612	29	24	0,7
201382	CM-1000	1,0x20	F5	400	40	18	0,5
201384	CM-1000	2,0x20	F5	400	40	35	0,8

### Medelhög avskiljningsgrad



#### FÖRDELAR

- CM material: självbindande
- Klass F1 enligt DIN 53438
- Klass 1 enligt UL 900
- Optimalt skydd mot fibersläpp





## Pleated Panel Filters type AFP 60



Camfil has a wide range of pleated panel filters made in cotton / glass fibre media. They have a good collecting efficiency on atmospheric dust.

**Efficiency** ≥80% Synthetic Dust Weight Arrestance according to CEN EN 779 (G4)

**Media** Glass fibre / cotton

**Frame** Cardboard

**Pressure drop** Filters 2" deep give 40 Pa at 2.0 m/s

Filters 4" deep give 46 Pa at 2.6 m/s

Type			
	12'24'2"	292'596'48 mm	0.33 kg
	12'24'4"	292'596'98 mm	0.67 kg
	16'20'2"	393'495'48 mm	0.37 kg
	16'20'4"	393'495'98 mm	0.74 kg
	16'25'2"	393'622'48 mm	0.46 kg
	16'25'4"	393'622'98 mm	0.92 kg
	20'20'2"	495'495'48 mm	0.46 kg
	20'20'4"	495'495'98 mm	0.93 kg
	20'25'2"	495'622'48 mm	0.58 kg
	20'25'4"	495'622'98 mm	1.16 kg
	24'24'2"	596'596'48 mm	0.65 kg
	24'24'4"	596'596'98 mm	1.30 kg

Other dimensions on demand.



# Hi-Flo XLT

Energieffektiva påsfilter



- Filtermaterial av det senaste glasfibermediat
- Låga begynnelsestryckfall
- Flack tryckfallsutveckling
- Nyutvecklad sömnadsteknik för bästa luftfördelning
- Koniska fickor
- Helgjuten, stabil och aerodynamiskt utformad frontram i plast

**Hi-Flo XLT** är en serie energieffektiva ventilationsfilter med unika prestanda och ett brett användningsområde. De är avsedda att passa lika bra för vanlig fastighetsventilation som för industriellt bruk.

**Hi-Flo XLT** renar effektivt luften från skadliga partiklar och förbättrar inommiljön. Filterfickornas konstruktion, med en helt ny sömnadsdesign, gör att luften fördelas lika över hela filtret och filterytan utnyttjas maximalt.

**Hi-Flo XLT** :s filterfickor har en konisk form som gör att dom inte ligger an mot aggregatets botten eller tak. Härigenom förhindras fickorna att bli liggande i det vatten som ibland samlas i ventilationsanläggningen.

**Hi-Flo XLT** är ett Eurovent Certifierat filter. och filtermediat är framtaget med hänsyn till så låg energikostnad som möjligt i anläggningen. Det innebär att begynnelsestryckfallet är lågt och har en flack utveckling under driftperioden. Filtrets avskiljningseffektivitet på partiklar är fortfarande bra och uppfyller utlovad prestanda.

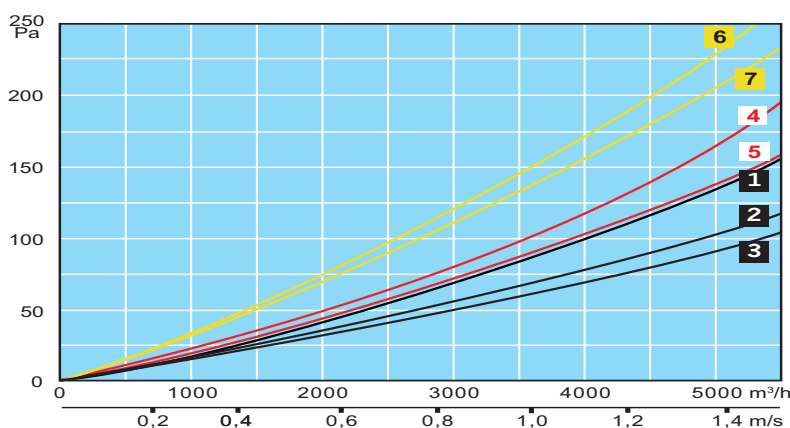
**Hi-Flo XLT** har en stabil och helgjuten frontram utav plast, som är aerodynamiskt utformad för bästa luftdistribution. Baksidan av ramen är försedd med nockar över varje ficka som skyddar filtermaterialet mot att skadas vid installation i vissa anläggningar. Mellan fickorna, på baksidan av ramen, finns ett mellanrum så att allt filtermedia har fri luftpassage och kan utnyttjas maximalt.

# Hi-Flo XLT

## Energieffektive posefilter

Artikel nummer	Artikelnamn	Model	Antal påsar	Luftflöde, m <sup>3</sup> /h/ Beg. tryckfall, Pa	Filter area m <sup>2</sup>
610150	HI-FLO XLT 6	HFGP-F6-592/592/370-10-25	10	3400/80	4,3
610151	HI-FLO XLT 6	HFGP-F6-287/592/370-5-25	5	1700/80	2,2
610152	HI-FLO XLT 6	HFGP-F6-287/287/370-5-25	5	800/80	0,9
610153	HI-FLO XLT 6	HFGP-F6-592/592/520-10-25	10	3400/60	6,1
610154	HI-FLO XLT 6	HFGP-F6-287/592/520-5-25	5	1700/60	3,1
610155	HI-FLO XLT 6	HFGP-F6-287/287/520-5-25	5	800/60	1,2
610156	HI-FLO XLT 6	HFGP-F6-592/592/640-10-25	10	3400/55	7,5
610157	HI-FLO XLT 6	HFGP-F6-287/592/640-5-25	5	1700/55	3,8
610158	HI-FLO XLT 6	HFGP-F6-287/287/640-5-25	5	800/55	1,5
610162	HI-FLO XLT 7	HFGP-F7-592/592/520-10-25	10	3400/95	6,1
610163	HI-FLO XLT 7	HFGP-F7-287/592/520-5-25	5	1700/95	3,1
610164	HI-FLO XLT 7	HFGP-F7-287/287/520-5-25	5	800/95	1,2
610165	HI-FLO XLT 7	HFGP-F7-592/592/640-10-25	10	3400/80	7,5
610166	HI-FLO XLT 7	HFGP-F7-287/592/640-5-25	5	1700/80	3,8
610167	HI-FLO XLT 7	HFGP-F7-287/287/640-5-25	5	800/80	1,5
610171	HI-FLO XLT 9	HFGP-F9-592/592/520-10-25	10	3400/145	6,1
610172	HI-FLO XLT 9	HFGP-F9-287/592/520-5-25	5	1700/145	3,1
610173	HI-FLO XLT 9	HFGP-F9-287/287/520-5-25	5	800/145	1,2
610174	HI-FLO XLT 9	HFGP-F9-592/592/640-10-25	10	3400/130	7,5
610175	HI-FLO XLT 9	HFGP-F9-287/592/640-5-25	5	1700/130	3,8
610176	HI-FLO XLT 9	HFGP-F9-287/287/640-5-25	5	800/130	1,5

### Tryckfallskurvor för F6, F7 och F9



- Nr 1:** HI-FLO XLT 6, HFGP-F6-592/592/370-10-25  
**Nr 2:** HI-FLO XLT 6, HFGP-F6-592/592/520-10-25  
**Nr 3:** HI-FLO XLT 6, HFGP-F6-592/592/640-10-25  
**Nr 4:** HI-FLO XLT 7, HFGP-F7-592/592/520-10-25  
**Nr 5:** HI-FLO XLT 7, HFGP-F7-592/592/640-10-25  
**Nr 6:** HI-FLO XLT 9, HFGP-F9-592/592/520-10-25  
**Nr 7:** HI-FLO XLT 9, HFGP-F9-592/592/640-10-25

### Tekniska specifikationer:

**Ram:** Polypropylen plast – helgjuten förbränningsbar

**Media:** Glasfiber

**Filterklass:** F6, F7, F9 enligt EN 779:2002

**Temperatur:** 70 °C

**Luftflöden:** Nominellt luftflöde ± 25%

**Emballage:** Miljökartong av wellpapp med effektivt bärhandtag. Vi är anslutna till REPA-registret

## Hög avskiljningsgrad



## FÖRDELAR

- Stor filteryta
- Lång livslängd
- Låga driftskostnader

### 😊 VISSTE NI ATT!

**Hälsa:** Riktlinjerna i "Klimatisering och hälsa" från UNICLIMA och EUROVENT 12/1-92 rekommenderar 85 % avskiljningsgrad (F7) på tilluftssidan till luftbehandlingsanläggningen.

**Ekonomi:** 50 % större yta innebär 100 % längre livslängd (se Camfil Farris studie).

## Hi-Flo M, N, O, X

**Applikationer:** Luftbehandling i klimatiserade lokaler och som förfilter i renrum.

**Typ:** Filter med hög avskiljningsgrad, av glasfiber.

**Ram:** Förzinkad stålplåt, tjocklek 25 mm.

**Media:** Glasfiber.

**Filterklass enligt EN 779:2002:** F6, F7, F9.

**Rekommenderat sluttryckfall:** 250 Pa.

**Maximalt flöde:** 1,25 x nominellt flöde.

**Temperatur:** Högst 70°C vid kontinuerlig drift.

**Montagesystem:** Montageramar av typ SP eller i filterskåp FCBS-HF.

Artikelnummer	Typ	Modell	Dimensioner (BxHxD) mm	Filterklass enl. EN 779:2002	Antal påsar	Filteryta m <sup>2</sup>	Flöde / ΔP nominellt m <sup>3</sup> /h / Pa	Enhetsvikt kg	Enhetsvolym m <sup>3</sup>
600039	Hi-Flo	X6	592x592x635	F6	10	7,8	3400/65	3,0	0,05
600071	Hi-Flo	M6	592x592x635	F6	12	9,2	3400/65	3,3	0,05
600001	Hi-Flo	N6	490x592x635	F6	10	7,7	2800/65	3,0	0,05
600077	Hi-Flo	O6	287x592x635	F6	6	4,6	1700/65	2,0	0,03
600157	Hi-Flo	XL6	592x892x635	F6	10	11,5	5000/65	3,4	0,1
600126	Hi-Flo	ML6	592x892x635	F6	12	13,7	5000/65	3,9	0,1
600132	Hi-Flo	NL6	490x892x635	F6	10	11,4	4100/65	3,2	0,1
600136	Hi-Flo	OL6	287x892x635	F6	6	6,8	2500/65	2,2	0,05
600041	Hi-Flo	X7	592x592x635	F7	10	7,8	3400/90	3,0	0,05
600073	Hi-Flo	M7	592x592x635	F7	12	9,2	3400/85	3,3	0,05
600002	Hi-Flo	N7	490x592x635	F7	10	7,7	2800/85	3,0	0,05
600079	Hi-Flo	O7	287x592x635	F7	6	4,6	1700/85	2,0	0,03
600159	Hi-Flo	XL7	592x892x635	F7	10	11,5	5000/90	2,8	0,1
600128	Hi-Flo	ML7	592x892x635	F7	12	13,7	5000/85	3	0,1
600134	Hi-Flo	NL7	490x892x635	F7	10	11,4	4100/85	2,7	0,1
600138	Hi-Flo	OL7	287x892x635	F7	6	6,8	2500/85	1,8	0,05
600043	Hi-Flo	X9	592x592x635	F9	10	7,8	3400/135	3,0	0,05
600075	Hi-Flo	M9	592x592x635	F9	12	9,2	3400/130	3,3	0,05
600004	Hi-Flo	N9	490x592x635	F9	10	7,7	2800/130	3,0	0,05
600081	Hi-Flo	O9	287x592x635	F9	6	4,6	1700/130	2,0	0,03
600160	Hi-Flo	XL9	592x892x635	F9	10	11,5	5000/135	2,8	0,1
600130	Hi-Flo	ML9	592x892x635	F9	12	13,7	5000/130	3,0	0,1
600135	Hi-Flo	NL9	490x892x635	F9	10	11,4	4100/130	2,7	0,1
600140	Hi-Flo	OL9	287x892x635	F9	6	6,8	2500/130	1,8	0,05

Andra dimensioner finns för leverans.

## Hög avskiljningsgrad



### 😊 VISSTE NI ATT!

**Hälsa:** Riktlinjerna i "Klimatisering och hälsa" från UNICLIMA och EUROVENT 12/1-92 rekommenderar 85 % avskiljningsgrad (F7) på tilluftssidan till luftbehandlingsanläggningen.

**Ekonomi:** 50 % större yta innebär 100 % längre livslängd (se Camfil Farris studie).

## Hi-Flo P, Q, R, PL, QL, RL

**Applikationer:** Luftbehandling i klimatiserade lokaler och som förfilter i renrum.

**Typ:** Filter med hög avskiljningsgrad, av glasfiber.

**Ram:** Förzinkad stålplåt, tjocklek 25 mm.

**Media:** Glasfiber.

**Filterklass enligt EN 779:2002:** F6, F7, F9.

**Rekommenderat sluttryckfall:** 250 Pa.

**Maximalt flöde:** 1,25 x nominellt flöde.

**Temperatur:** Högst 70°C vid kontinuerlig drift.

**Montagesystem:** Montageramar av typ SP eller i filterskåp FCB-HF.

Artikelnummer	Typ	Modell	Dimensioner (BxHxD) mm	Filterklass enl. EN 779:2002	Antal påsar	Filteryta m <sup>2</sup>	Flöde / ΔP nominellt m <sup>3</sup> /h / Pa	Enhetsvikt kg	Enhetsvolym m <sup>3</sup>
600083	Hi-Flo	P6	592x592x534	F6	10	6,5	3400/70	2,9	0,05
600005	Hi-Flo	Q6	490x592x534	F6	8	5,2	2800/70	2,4	0,05
600096	Hi-Flo	R6	287x592x534	F6	5	3,2	1700/70	1,5	0,03
600141	Hi-Flo	PL6	592x892x534	F6	10	9,7	5000/70	4,4	0,11
600147	Hi-Flo	QL6	490x892x534	F6	8	7,8	4100/70	4,0	0,11
600152	Hi-Flo	RL6	287x892x534	F6	5	4,8	2500/70	2,6	0,05
600085	Hi-Flo	P7	592x592x534	F7	10	6,5	3400/105	2,6	0,05
600007	Hi-Flo	Q7	490x592x534	F7	8	5,2	2800/105	2,3	0,05
600098	Hi-Flo	R7	287x592x534	F7	5	3,2	1700/105	1,6	0,03
600143	Hi-Flo	PL7	592x892x534	F7	10	9,7	5000/105	3,8	0,11
600149	Hi-Flo	QL7	490x892x534	F7	8	7,8	4100/105	3,6	0,11
600154	Hi-Flo	RL7	287x892x534	F7	5	4,8	2500/105	2,2	0,05
600087	Hi-Flo	P9	592x592x534	F9	10	6,5	3400/150	2,5	0,05
600009	Hi-Flo	Q9	490x592x534	F9	8	5,2	2800/150	2,4	0,05
600100	Hi-Flo	R9	287x592x534	F9	5	3,2	1700/150	1,5	0,03
600145	Hi-Flo	PL9	592x892x534	F9	10	9,7	5000/150	4,1	0,11
600151	Hi-Flo	QL9	490x892x534	F9	8	7,8	4100/150	3,6	0,11
600156	Hi-Flo	RL9	287x892x534	F9	5	4,8	2500/150	2,5	0,05

Andra dimensioner finns för leverans.

## Hög avskiljningsgrad



## FÖRDELAR

- Låga driftskostnader
- Hög avskiljningsgrad

### 😊 VISSTE NI ATT!

**Hälsa:** Riktlinjerna i "Klimatisering och hälsa" från UNICLIMA och EUROVENT 12/1-92 rekommenderar 85 % avskiljningsgrad (F7) på tilluftssidan till luftbehandlingsanläggningen.

**Ekonomi:** 50 % större yta innebär 100 % längre livslängd (se Camfil Farris studie).

## Hi-Flo A, B, C, UF, UG och UH

**Applikationer:** Luftbehandling i klimatiserade lokaler och som förfilter i renrum.

**Typ:** Filter med hög avskiljningsgrad, av glasfiber.

**Ram:** Försinkad stålplåt, tjocklek 25 mm.

**Media:** Glasfiber.

**Filterklass enligt EN 779:2002:** F5, F6, F7, F9.

**Rekommenderat sluttryckfall:** 250 Pa.

**Maximalt flöde:** 1,25 x nominellt flöde.

**Temperatur:** Högst 70°C vid kontinuerlig drift.

**Montagesystem:** Montageramar av typ SP eller i filterskåp FCB-HF.

Artikelnummer	Typ	Modell	Dimensioner (BxHxD) mm	Filterklass enl. EN 779:2002	Antal påsar	Filteryta m <sup>2</sup>	Flöde / ΔP nominellt m <sup>3</sup> /h / Pa	Enhetsvikt kg	Enhetsvolym m <sup>3</sup>
603178	Hi-Flo	A5	592x592x600	F5	6	4,7	3400/55	1,9	0,03
603186	Hi-Flo	B5	490x592x600	F5	5	3,9	2800/55	1,6	0,03
603198	Hi-Flo	C5	287x592x600	F5	3	2,3	1700/55	1,1	0,02
603109	Hi-Flo	AL5	592x892x600	F5	6	6,8	3400/40	2,4	0,05
603118	Hi-Flo	BL5	490x892x600	F5	5	5,7	2800/40	1,9	0,05
603126	Hi-Flo	CL5	287x892x600	F5	3	3,4	1700/40	1,4	0,03
600186	Hi-Flo	UFL6	592x892x600	F6	8	8,9	5400/90	2,9	0,1
600183	Hi-Flo	UGL6	490x892x600	F6	6	6,7	3600/60	2,4	0,05
600180	Hi-Flo	UHL6	287x892x600	F6	4	4,4	1700/55	1,8	0,05
600026	Hi-Flo	UF6	592x592x600	F6	8	6,0	3400/70	2,9	0,03
600033	Hi-Flo	UG6	490x592x600	F6	6	4,6	2800/75	2,4	0,03
600020	Hi-Flo	UH6	287x592x600	F6	4	3,0	1700/70	1,5	0,02
600188	Hi-Flo	UFL7	592x892x600	F7	8	8,9	3600/90	2,4	0,1
600184	Hi-Flo	UGL7	490x892x600	F7	6	6,7	3200/95	2	0,05
600181	Hi-Flo	UHL7	287x892x600	F7	4	4,4	1700/100	1,5	0,05
600029	Hi-Flo	UF7	592x592x600	F7	8	6,0	3400/115	2,9	0,03
600035	Hi-Flo	UG7	490x592x600	F7	6	4,6	2800/125	2,4	0,03
600022	Hi-Flo	UH7	287x592x600	F7	4	3,0	1700/115	1,5	0,02
600190	Hi-Flo	UFL9	592x892x600	F9	8	8,9	3600/135	2,4	0,1
600185	Hi-Flo	UGL9	490x892x600	F9	6	6,7	3000/135	2	0,05
600182	Hi-Flo	UHL9	287x892x600	F9	4	4,4	1500/135	1,5	0,05
600031	Hi-Flo	UF9	592x592x600	F9	8	6,0	3400/145	2,9	0,03
600037	Hi-Flo	UG9	490x592x600	F9	6	4,6	2800/155	2,4	0,03
600024	Hi-Flo	UH9	287x592x600	F9	4	3,0	1700/145	1,5	0,02

Andra dimensioner finns för leverans.



## Hög avskiljningsgrad



## FÖRDELAR

- Koniska filterpåsar
- Högklassigt filtermedia
- Motstår hög mekanisk belastning
- Stabil ramkonstruktion
- Hög avskiljningsgrad
- Helt brännbart
- P-märkt

😊 **VISSTE NI ATT!** Nu finns alla Hi-Flo med en alternativ ramkonstruktion av plast, som ger låg miljöbelastning.

## Hi-Flo G F6, F7, F9 plastram

**Applikationer:** Tilluftsfilter för ventilations- och klimatinstallationer.

**Typ:** Påsfilter med stor effektiv filteryta och hög avskiljningsgrad.

**Ram:** Plast, material PS.

**Media:** Glasfiber.

**Filterklass enligt EN 779:2002:** F6, F7, F9.

**Rekommenderat sluttryckfall:** 250 Pa.

**Maximalt luftflöde:** 1,25 x nominellt flöde.

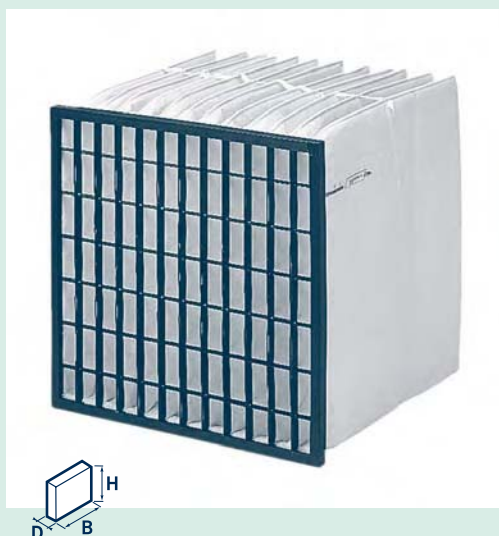
**Temperatur/Luftfuktighet:** 70°C/100 % RH.

**Montageram:** Filterram typ SP.

**Filterskåp:** FCBL-HF.

Artikelnummer	Typ	Modell	Dimensioner (BxHxD) mm	Filterklass enl. EN 779:2002	Antal påsar	Filteryta m <sup>2</sup>	Flöde / ΔP nominellt m <sup>3</sup> /h / Pa	Enhetsvikt kg	Enhetsvolym m <sup>3</sup>
240031	Hi-Flo	3MG-65	592x592x635	F6	12	9	3400/70	2,5	0,051
240032	Hi-Flo	3MG-85	592x592x635	F7	12	9	3400/95	2,1	0,051
240033	Hi-Flo	3MG-95	592x592x635	F9	12	9	3400/140	2,1	0,051
240034	Hi-Flo	3NG-65	490x592x635	F6	10	7,4	2800/70	2,35	0,051
240035	Hi-Flo	3NG-85	490x592x635	F7	10	7,4	2800/90	1,9	0,051
240036	Hi-Flo	3NG-95	490x592x635	F9	10	7,4	2800/140	1,9	0,051
240037	Hi-Flo	30G-65	287x592x635	F6	6	4,5	1700/70	1,5	0,025
240038	Hi-Flo	30G-85	287x592x635	F7	6	4,5	1700/90	1,3	0,025
240039	Hi-Flo	30G-95	287x592x635	F9	6	4,5	1700/140	1,3	0,025
240150	Hi-Flo	3UFG-65-66	592x592x600	F6	8	6	3400/70	2,25	0,051
2401501	Hi-Flo	3UFG 65-66-535	592x592x535	F6	8	5,4	3400/75	2,25	0,051
240143	Hi-Flo	3UFG 65-65-535	592x490x535	F6	8	4,6	2800/80	1,95	0,051
240151	Hi-Flo	3UFG-85-66	592x592x600	F7	8	6	3400/115	2,25	0,051
2401511	Hi-Flo	3UFG 85-66-535	592x595x535	F7	8	5,4	3400/125	2,25	0,051
240152	Hi-Flo	3UFG-95-66	592x592x600	F9	8	6	3400/145	2,25	0,051
2401521	Hi-Flo	3UFG 95-66-535	592x592x535	F9	8	5,4	3400/155	2,25	0,051
2401551	Hi-Flo	3UFG 95-56-535	490x592x535	F9	6	4,1	2800/165	1,95	0,051
2401581	Hi-Flo	3UFG 95-36-535	287x592x535	F9	4	2,7	1700/155	1,2	0,025
2401481	Hi-Flo	3UFG 95-33-535	287x287x535	F9	4	1,4	800/200		
2401441	Hi-Flo	3UFG-85-65-535	592x490x535	F7	8	4,6	2800/135	1,95	0,051
240153	Hi-Flo	3UFG-65-56	490x592x600	F6	6	4,5	2800/75	1,95	0,051
2401531	Hi-Flo	3UFG 65-56-535	790x592x535	F6	6	4,1	2800/75	1,95	0,051
240154	Hi-Flo	3UFG-85-56	490x592x535	F7	6	4,5	2800/125	1,95	0,051
2401541	Hi-Flo	3UFG 85-56-535	490x592x535	F7	6	4,1	2800/130	1,95	0,051
2401411	Hi-Flo	3UFG 85-63-535	592x287x535	F7	8	2,8	1700/125	1,2	0,025
2401401	Hi-Flo	3UFG 65-63-535	592x287x535	F6	8	2,8	1700/80	1,2	0,025
240155	Hi-Flo	3UFG-95-56	490x592x600	F9	6	4,5	2800/155	1,95	0,051
240156	Hi-Flo	3UFG-65-36	287x592x600	F6	4	3	1700/70	1,2	0,025
240157	Hi-Flo	3UFG-85-36	287x592x600	F7	4	3	1700/115	1,2	0,025
2401471	Hi-Flo	3UFG 85-33-535	287x287x535	F7	4	1,4	800/90		
2401461	Hi-Flo	3UFG 65-33-535	287x287x535	F6	4	1,4	800/70		
2401561	Hi-Flo	3UFG 65-36-535	287x592x535	F6	4	2,7	1700/75	1,2	0,025
2401571	Hi-Flo	3UFG 85-36-535	287x592x535	F7	4	2,7	1700/135	1,2	0,025
240158	Hi-Flo	3UFG-95-36	287x592x600	F9	4	3	1700/145	1,2	0,025

## Hög avskiljningsgrad



## FÖRDELAR

- Koniska filterpåsar
- Högklassigt filtermedia
- Motstår hög mekanisk belastning
- Stabil ramkonstruktion
- Hög avskiljningsgrad
- Helt brännbart
- P märkt

😊 **VISSTE NI ATT!** Nu finns alla Hi-Flo med en alternativ ramkonstruktion av plast, som ger låg miljöbelastning.

## Hi-Flo G F5, F6, F7, F9 plastram

**Applikationer:** Tilluftsfilter för ventilations- och klimatinstallationer.

**Typ:** Påsfilter med stor effektiv filteryta och hög avskiljningsgrad.

**Ram:** Plast, material PS.

**Media:** Glasfiber.

**Filterklass enligt EN 779:2002:** F5, F6, F7, F9.

**Rekommenderat sluttryckfall:** 250 Pa.

**Maximalt luftflöde:** 1,25 x nominellt flöde.

**Temperatur/Luftfuktighet:** 70°C/100 % RH.

**Montageram:** Filterram typ SP.

**Filterskåp:** FCBL-HF för 600 mm djupa filter. FCBS-HF för 380 mm djupa filter.

Artikelnummer	Typ	Modell	Dimensioner (BxHxD) mm	Filterklass enl. EN 779:2002	Antal påsar	Filteryta m <sup>2</sup>	Flöde / ΔP nominellt m <sup>3</sup> /h / Pa	Enhetsvikt kg	Enhetsvolym m <sup>3</sup>
240110	3AG-4050	592x592x600	F5	6	4,5	2500/30	3600/60	1,2	0,051
2401101	3AG-4050-535	592x592x535	F5	6	4,23	2500/35	3600/65	1,2	0,051
240111	3BG-4050	490x592x600	F5	5	3,6	2000/30	2900/60	1	0,051
2401111	3BG-4050-535	490x592x535	F5	5	3,5	2000/35	2900/65	1	0,051
603746	HFGP-592x490-6x500-F5	592x490x500	F5	6	3,3	2000/36	2900/65	1	0,051
240112	3CG-4050	287x592x600	F5	3	2,25	1250/30	1800/60	0,7	0,025
2401121	3CG-4050-535	287x592x535	F5	3	2,1	1250/35	1800/65	0,7	0,025
2401331	3UFG 4050-63-535	592x287x535	F5	8	2,8	1250/32	1800/64	0,8	0,025
2401351	3UFG 4050-33-535	287x287x535	F5	3	1,1	500/31	800/56		
2401105	3AG-4050-380	592x592x380	F5	6	3,0	2500/56	3400/80	1,2	0,051
2401115	3BG-4050-380	490x592x380	F5	5	2,5	2000/54	2900/85	1	0,051
2401125	3CG-4050-380	287x592x380	F5	3	1,5	1250/52	1800/81	0,7	0,025
2401335	3UFG 4050-63-380	592x287x380	F5	8	1,6	1250/52	1800/81	0,8	0,025
2401355	3UFG 4050-33-380	287x287x380	F5	3	0,8	500/41	800/72		
240160	3AG-65	592x592x600	F6	6	4,5	3000/70	3600/85	1,2	0,051
240163	3BG-65	490x592x600	F6	5	3,6	2500/65	3000/75	1,05	0,051
240166	3CG-65	287x592x600	F6	3	2,25	1500/65	1800/75	0,75	0,025
240120	TFG-65/66	592x592x380	F6	12	5,5	3400/90	4000/120	1,9	0,051
240121	TFG-65/56	490x592x380	F6	10	4,6	2800/90	3300/120	1,6	0,051
240122	TFG-65/36	287x592x380	F6	6	2,7	1700/90	2000/120	1,1	0,025
240161	3AG-85	592x592x600	F7	6	4,5	3000/130	3600/160	1,2	0,051
240164	3AG-85	490x592x600	F7	5	3,6	2500/125	3000/155	1,05	0,051
240167	3AG-85	287x592x600	F7	3	2,25	1500/125	1800/155	0,75	0,025
240123	TFG-85/66	592x592x380	F7	12	5,5	3400/130	4000/165	1,9	0,051
240124	TFG-85/56	490x592x380	F7	10	4,6	2800/130	3300/165	1,6	0,051
240125	TFG-85/36	287x592x380	F7	6	2,7	1700/130	2000/165	1,1	0,025
240162	3AG-95	592x592x600	F9	6	4,5	3000/210	3600/260	1,2	0,051
Erhålls vid beställning	3BG-95	490x592x600	F9	5	3,6	2500/205	3000/245	1,05	0,051
240168	3CG-95	287x592x600	F9	3	2,25	1500/205	1800/245	0,75	0,025

## Hög avskiljningsgrad



## FÖRDELAR

- Koniska filterpåsar
- Högklassigt filtermedia
- Motstår hög mekanisk belastning
- Hög avskiljningsgrad
- Lämpar sig för filterbankar och aggregat

😊 **VISSTE NI ATT!** Hi-Flo TF är ett finfilter med stor filteryta och kort bygglängd.

## Hi-Flo TF

**Applikationer:** Tilluftsfilter för ventilations- och klimatinstallationer.

**Typ:** Påsfilter med stor effektiv filteryta och hög avskiljningsgrad.

**Ram:** Stål.

**Media:** Glasfiber.

**Filterklass enligt EN 779:2002:** F6, F7, F9.

**Rekommenderat sluttryckfall:** 250 Pa.

**Maximalt luftflöde:** 1,25 x nominellt flöde.

**Temperatur/Luftfuktighet:** 70°C/100 % RH.

**Montageram:** Filterram typ SP.

**Filterskåp:** FCBS-HF.

Artikelnummer	Typ	Modell	Dimensioner (BxHxD) mm	Filterklass enl. EN 779:2002	Antal påsar	Filteryta m <sup>2</sup>	Flöde / ΔP nominellt m <sup>3</sup> /h / Pa	Enhetsvikt kg	Enhetsvolym m <sup>3</sup>
600054	Hi-Flo	T06	287x592x380	F6	6	2,7	1700/90	1,40	0,025
600066	Hi-Flo	TN6	490x592x380	F6	10	4,5	2800/90	2,15	0,051
600060	Hi-Flo	TM6	592x592x380	F6	12	5,5	3400/90	2,55	0,051
600056	Hi-Flo	T07	287x592x380	F7	6	2,7	1700/130	1,35	0,025
600068	Hi-Flo	TN7	490x592x380	F7	10	4,5	2800/130	2,05	0,051
600062	Hi-Flo	TM7	592x592x380	F7	12	5,5	3400/130	2,3	0,051
600058	Hi-Flo	T09	287x592x380	F9	6	2,7	1700/205	1,35	0,025
600070	Hi-Flo	TN9	490x592x380	F9	10	4,5	2800/205	2	0,051
600064	Hi-Flo	TM9	592x592x380	F9	12	5,5	3400/205	2,25	0,051
600164	Hi-Flo	T0L6	287x892x380	F6	6	4,0	1700/55	1,4	0,05
600170	Hi-Flo	TNL6	490x892x380	F6	10	6,8	2800/55	2,6	0,05
600174	Hi-Flo	TML6	592x892x380	F6	12	8,1	3400/55	2,9	0,1
600166	Hi-Flo	T0L7	287x892x380	F7	6	4,0	1700/80	1,5	0,05
600171	Hi-Flo	TNL7	490x892x380	F7	10	6,8	2800/80	2,2	0,05
600176	Hi-Flo	TML7	592x892x380	F7	12	8,1	3400/80	2,5	0,1
600168	Hi-Flo	T0L9	287x892x380	F9	6	4,0	1700/115	1,5	0,05
600173	Hi-Flo	TNL9	490x892x380	F9	10	6,8	2800/115	2,2	0,05
600178	Hi-Flo	TML9	592x892x380	F9	12	8,1	3400/115	2,5	0,1

# 3.3

# Turbinfilter



# Turbine Air

## Offshore systems

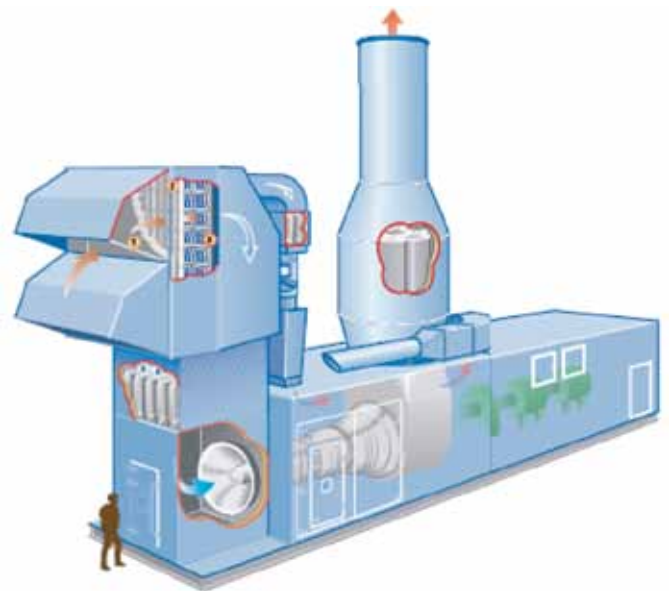
**Offshore Filter Systems are designed to clean combustion and ventilation air on fixed and floating platform installations. High-efficiency filters with high performance on wet and dry salt clean the air and help ensure the reliability, efficiency and operating economy of the process.**



The optimum filter combination forms an integrated part of a complete Air Inlet System.

Details such as water handling and drainage are of vital importance to ensure proper operation. We also take great care to design the installation for simple and safe maintenance.

Inlet Systems are normally manufactured from corrosion resistant materials, such as marine grade aluminium or stainless steel. Marine Grade aluminium is an excellent construction material, and its corrosion resistance ensures low maintenance costs. Its low specific gravity also gives up to 50% weight-saving which makes substantial cost savings possible for the total installation.





## Offshore system – medium velocity system

### Weather Protection

Weather Hood to prevent wet snow and large droplets from entering the air intake.

Droplet Separator, type CamVane, is a vertical vane medium velocity inertial vane separator. It removes the small droplets from the air stream and provides with its high water handling capacity an optimum weather protection.

Prefilter/Coalescer-Prefilter/Coalescer, normally in one combined stage, of type H-Cap G4 or 30/30WR, is a prefilter with synthetic filter media. Beside being a prefilter with high dust holding capacity (DHC), for long filterlife, it also acts as a coalescer removing the smallest droplets which are not knock-out by the Droplet Separator, Stage1.

### Final filter

The CamGT is developed for offshore and coastal installations. The objectives has been high efficiency, low pressure drop and maintained performance also in wet conditions. In order to accomplish this the CamGT is developed with the following construction features:

Large filter surface, gives low pressure drop and high dust holding capacity.

Vertical pleats allow water to drain freely without causing pressure drop increase. Media pack are reinforced with backing screen and completely sealed on all four sides with polyurethane seal towards the frame.



## Offshore system – high velocity system

### Weather Protection

Weather Hood to prevent wet snow and large droplets from entering the air intake.

High Velocity Droplet Separator is a high velocity inertial vane separator. It removes the small droplets from the air stream and provides with its high water handling capacity an optimum weather protection.

### Filter stage

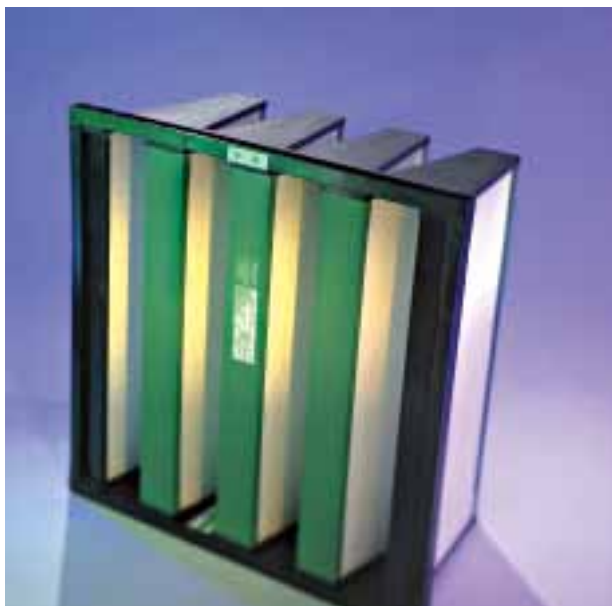
Bagfilter in F6/F7 efficiency with synthetic media and reinforced for high velocity. Depending on dust load and filter performance (dust holding capacity) the bagfilter can be protected by a prefilter.

### Final stage

High Velocity Droplet Separator is a high velocity inertial vane separator. It removes droplets which will carry-over from the filter stage. Due to the high velocity will the efficiency be limited allowing the sub-micron particle to penetrate. The high velocity system is therefore only recommended when size constraints makes it impossible to install a medium velocity system or when high efficiency on small particulate is of less importance. The risk of re-entrainment of dry deposits on the final stage must also be considered.



## Cam GT for turbo machinery



Cam GT is a new high-capacity filter for turbo machinery. Due to the **unique design** its performance is maintained in humid or **wet conditions**, guaranteeing a long lifetime and a good filter economy.

Its robust heavy duty design combined with high efficiency and low pressure drop, guarantees optimum protection and engine performance under most demanding operating conditions.

The Cam GT is available in a range of efficiencies to meet individual requirements.

A large effective filter area assures high capacity, high efficiency and low pressure drop.

With the **new H12 version**, Cam GT now offers HEPA efficiency resulting in superior engine protection and extended periods of operation without need for shutdowns for cleaning.

### Application areas

- air inlets for turbine equipment
- axial resipricating compressors
- offshore and coastal installations
- installations with recurrent high humidity

### Patent pending construction

Cam GT's large filter surface is based on Camfil Farr's patent pending construction featuring vertical pleats, hot melt separators and polyurethane seal. The filter media packs are reinforced with a strong backing screen and enclosed in a robust plastic frame to withstand the often severe pressure fluctuations encountered in turbo machinery applications. With the backing screen and the moulded polyurethane gasket permanently fixed to the filter frame, the filter installation simplified with limited risk for filter media damage and leakages.

### High humidity conditions

Cam GT's unique construction allows trapped water to drain freely from the filter during operation, thus avoiding re-entrainment of dissolved impurities and maintaining low pressure drop under high humidity conditions.

### Superior engine protection

The Cam GT range includes a H10 as well as a H12 version. They both offers considerable improvements in engine protection resulting in lower engine degradation and prolonged service intervals without need of shutdowns for compressor cleaning.

The H12 version includes 50% more filter media in order to maintain a low pressure drop also with this extremely high filtration efficiency.

### Key features

- offers optimum engine protection
- low pressure drop also in "wet" conditions
- improves overall filter economy
- increases service life
- excellent in damp and humid climates
- ensures water drainage
- heavy duty construction
- easy mounting
- completely incinerable
- high filtration efficiency
- compact
- excellent burst pressure performance

Camfil Farr's gas turbine filters are tested at VTT\*, in accordance with CEN EN 779.

Burst pressure test have been conducted at VTT with excellent results.

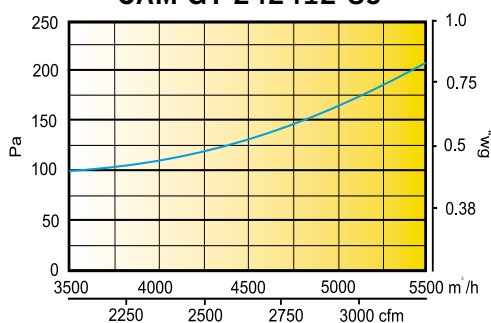
\* independent test institute

# Cam GT for turbo machinery

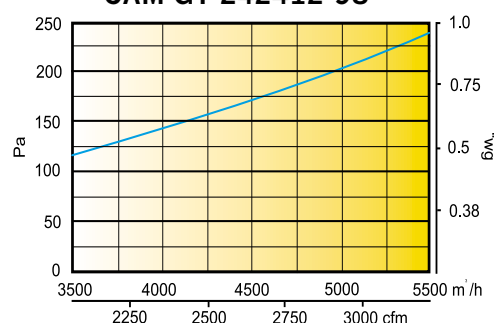
Model	W×H×D		Media area		Air flow/Pressure loss		Shipping data		Filter class		Dust holding capacity at 450 Pa/1.8 "wg g
	mm	inch	m²	ft²	m³/h/Pa	CFM/"wg	m³/ft³	kg/lb	EN 779	MERV	
CamGT-242412-85	595×592×290	23.3×23.3×11.4	19.0	204	4250/120	2500/0.48	0.11/3.9	7/15.4	F7	MERV 13	550
CamGT-242412-98	595×592×290	23.3×23.3×11.4	19.0	204	4250/160	2500/0.64	0.11/3.9	7/15.4	F9	MERV 15	422
CamGT-242412-H10	595×592×290	23.3×23.3×11.4	19.0	204	4250/230	2500/0.92	0.11/3.9	7/15.4	H10		
CamGT-242412-H12	595×592×290	23.3×23.3×11.4	28.0	301	4250/390	2500/1.57	0.11/3.9	7/15.4	H12		
CamGT-241212-85	595×290×290	23.3×11.4×11.4	9.0	97	2125/145	1250/0.58	0.05/1.8	5/11.0	F7	MERV 13	225
CamGT-241212-98	595×290×290	23.3×11.4×11.4	9.0	97	2125/180	1250/0.72	0.05/1.8	5/11.0	F9	MERV 15	210
CamGT-241212-H10	595×290×290	23.3×11.4×11.4	9.0	97	2125/250	1250/1.0	0.05/1.8	5/11.0	H10		
CamGT-241212-H12	595×290×290	23.3×11.4×11.4	13.3	143	2125/400	1250/1.61	0.05/1.8	5/11.0	H12		

## Pressure drop

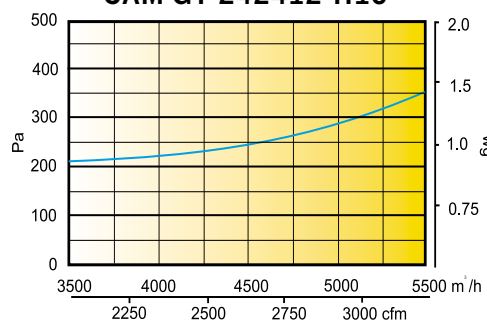
CAM GT-242412-85



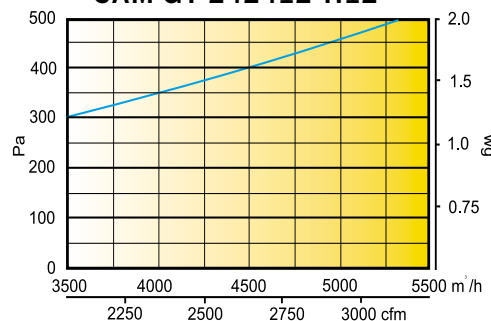
CAM GT-242412-98



CAM GT-242412-H10



CAM GT-242412-H12



## Specification

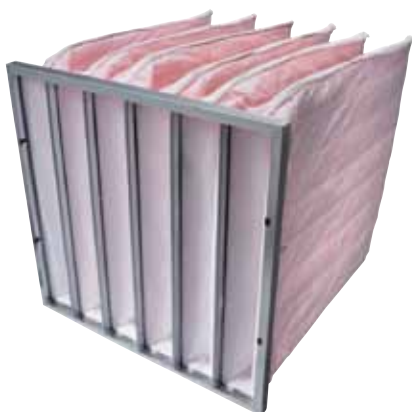
**Type** Double-pleated, compact, high filtration efficiency, incinerable  
**Frame** Polypropylene  
**Media** Glass fiber media  
**Separators** Hot melt  
**Seal** Polyurethane  
**Gasket** Polyurethane

**Class EN 779**  
**Class EN 1822**  
**ASHREA 52.2**  
**Recommended final pressure drop**  
**Recommended air flow nominal**  
**Temperature**  
**Burst strength**

F7, F9  
H10, H12  
MERV 13, 15  
600 Pa  
4.250 m³/h / 2,500 cfm  
80 °C max. running temp.  
>7500 Pa / 30 "wg

# CamFlo GT

## High velocity air inlet filter for turbo machinery



**CamFlo GT** is a newly developed inlet filter for gas turbines, compressors and diesel engines that have high velocity air inlet systems. With its robust design, large effective filter area and unique composite filter media it offers clear advantages to today's existing alternatives in the market.

Advantages, such as:

- Higher efficiency - improves engine protection
- Less pressure drop - increase output or reduces fuel consumption
- Higher dust holding capacity – reduces need of maintenance

The **CamFlo GT** is robustly constructed for high velocity applications. Material selection, stainless steel header frame and the unique dual layer of synthetic fibres, also maintains integrity in wet and highly corrosive conditions.

Application areas:

- Turbomachinery with high velocity air inlet systems
- Offshore and Marine installations
- Installations with recurrent wet conditions

### Applications

Gas turbines operating in offshore and marine installations and equipped with high velocity air inlet systems are in many cases suffering from extensive maintenance, high pressure drop and poor engine protection. These shortcomings are mainly a result of the high air-to-filtermedia ratio, limiting dust holding capacity and filtration efficiency. **CamFlo GT** is developed to offer a better alternative for these types of installations.

### Design Features

- Large filter surface – improves dust holding capacity and reduces pressure drop. It also allows for the use of filtermedia with higher efficiency.
- Ridged filter pocket design – assures efficient pocket shape is always maintained.
- Dual layer filter media – pre- and high efficiency filtration in one composite media, means high dust holding capacity in one instead of two separate filter stages.

### Construction

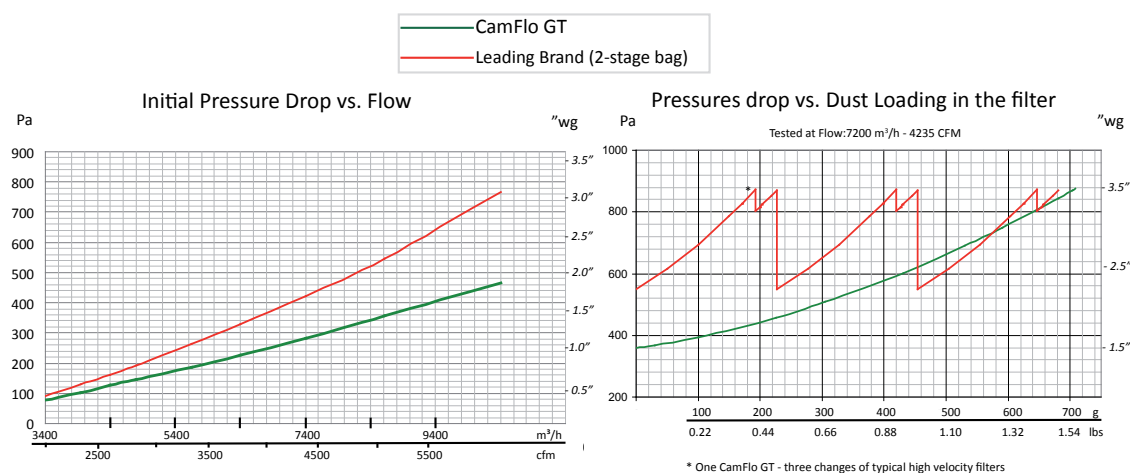
Continuous R&D ensures that **Camfil Farr** filters perform as specified and to our customer's expectations. The special shape of the filter bag ensures lowest possible pressure drop. The individual filter bags, made of dual layers of synthetic media, are fixed in place with adhesive and secured for maximum strength in a special stainless steel frame. Reinforcements are located between the bags to ensure the filter's stability and shape during max airflow. It can operate in temperatures up to 70°C/158°F and 100% RH.

Camfil Farr	Product sheet
CamFlo GT	
Camfil Farr – clean air solutions	

# CamFlo GT

## High velocity air inlet filter for turbo machinery

### Performance Data



### Technical data

Model	WxHxD	Media Area	ASHRAE Dust holding capacity at 450 Pa (1.8" wg)	Filter class
CamFlo GT F8	592x592x690 mm *24 x 24 x 28 "	5.3 m <sup>2</sup> 57 ft <sup>2</sup>	523 g 1.15 lbs	F8

Available in customized dimensions on request. \*Nominal size

### Specification

<b>Frame</b>	Stainless steel, AISI 316 galvanized steel available on request	<b>Class EN 779:2002</b>	F8
<b>Media</b>	Synthetic	Discharge efficiency	31%
<b>Seal</b>	Polyurethane	<b>Recommended max. final pressure drop</b>	850 Pa (3.4" wg)
		<b>Recommended air flow max.</b>	7.200 m³/h (4235 CFM)
		<b>Operating temperature</b>	70°C/158°F max. running

## HydroCel Providing the solution

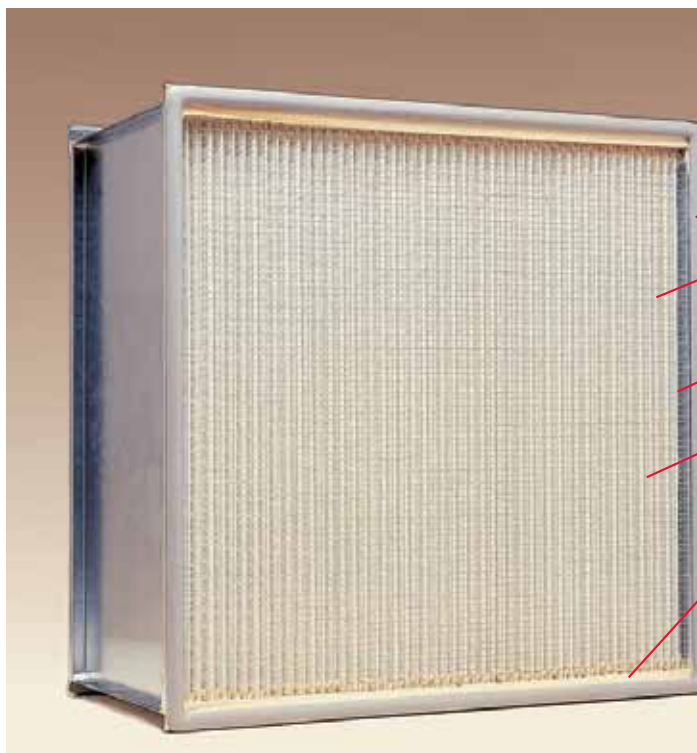
HydroCel 95 has achieved a remarkable reputation for providing clean air to gas turbines operating in the hostile environment prevailing offshore and in coastal locations. Operators have achieved air cleanliness not previously found and have moved quickly to establish the HydroCel as their number one choice to remove sea-salt and water, in addition to the locally generated industrial pollution.

HydroCel H12 is a complementary product which has been developed using the same special construction, but with a very high performance media. With this product, continuous turbine operation with only one or two water wash cycles per year can be achieved.

The H12 significantly contributes towards less downtime and higher production with even longer turbine component life than that achieved by the HydroCel 95.

### HydroCel 95 Proven Technology

### HydroCel H12 Advanced Technology



**Key Features**

- New ground breaking technology to keep supply air within salt solution limits.
- Outer casing 16 swg to increase body strength.
- Tapered plastic spacers which eliminate salt corrosion and improve flow characteristics.
- Free flow Polyurethane seal based on H13 standards.
- New media is water repellent in clean and dirty condition.
- Continuous gasket to secure housing seal.

HydroCel 95 & H12 solves the problem of excess salt solution which is essential for the protection against turbine blade fouling and corrosion.



# HydroCel 95 & H12

## Total Reassurance

### Seawater Removal

AAF purpose built a special rig in Cramlington which simulated offshore marine conditions. The procedure was to measure seawater penetration through a filter in the clean condition. A dirty condition was then created by introducing sea salt, hydrocarbons and ASHRAE test dust up to the change pressure drop. Further seawater penetration tests were carried out to confirm removal efficiency is consistent over the filter life cycle.

### Droplet Removal - Particulate Efficiency

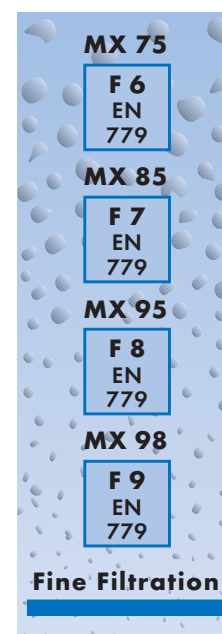
Particle Size Microns	Initial Efficiency %	
	95	H12
0.3 - 0.4	69.5	99.82
0.4 - 0.55	77.8	99.93
0.55 - 0.7	84.4	99.97
0.7 - 1.0	90.4	99.99
1.0 - 1.3	94.5	100.00
1.3 - 1.6	96.9	100.00
1.6 - 2.2	98.1	100.00
2.2 - 3.0	99.0	100.00
3.0 - 4.0	99.6	100.00
4.0 - 5.5	99.8	100.00
5.5 - 7.0	99.9	100.00
7.0 - 10.0	100.0	100.00

### Performance Data

Volumetric Air Flow				
Type - HydroCel	95		H12	
m3/hr (cfm)	3400 (2000)	4250 (2500)	5100 (3000)	4250 (2500)
Initial Resistance Pa (inch wg)	110 (0.44)	155 (0.62)	210 (0.84)	500 (2.0)
Final Resistance Pa (inch wg)	635 (2.5)	635 (2.5)	635 (2.5)	635 (2.5)
Average Atmosphere Dust Spot Efficiency	97	93	91	99.97
Ac Fine D.H.C.	1400	1100	950	650
Filter Class	F9	F8	F8	H12
Humidity	100%	100%	100%	100%
Available in standard size 592x592x292mm (23 <sup>3</sup> / <sub>16</sub> x23 <sup>3</sup> / <sub>16</sub> x11 <sup>1</sup> / <sub>2</sub> inches)				
Test results and performance data sourced from independent air filter testing authority				



# Potent Spacesavers of Patent Quality: MaxiPleat Cassette Filters Filter Classes F 6 – F 9



## The application

Viledon MaxiPleat cassette filters offer maximized operational reliability and cost-efficiency for supply, exhaust and recirculated air filtration in ventilation systems which have stringent requirements for clean air quality, particularly under critical on-site conditions, high air flow rates, where space is limited and when process safety does not permit any compromises, e.g.

- ▶ in intake air filtration for turbomachinery
- ▶ in industrial processes (chemicals, pharmaceuticals, foods and beverages, optics, electronics, surface treatment, etc.)
- ▶ in sophisticated air-conditioning applications (laboratories, libraries, museums, airports, office buildings, etc.)
- ▶ as policing filters in dust removal applications.

## The special features and benefits

- ▶ High-strength micro-glassfiber papers with a special thermoplastic bonding system and water-resistant coating are used as filter media.
- ▶ Our patented thermal embossing process, with its optimum V-shaped pleat geometry, ensures full utilization of the filtering area and uniform dust deposition, plus homogeneous air flow coupled with a low average pressure drop, i.e. a very slow increase in the pressure drop. This means a long useful lifetime, with cost-efficient and reliable operation.
- ▶ The leak-proof casting of the dimensionally stable pleat pack in the distortion-resistant plastic frame results in outstanding bursting strength as well as high

security against dust penetration. Gripping lugs facilitate mounting and removal, and protection grids on both sides minimize the risk of damage to the filter medium.

- ▶ Besides the standard version with 25 mm front frame thickness, the filters are also available with a 20.5 mm thick front frame or without a front frame. An optional water barrier prevents intake water from reaching the clean-air side. Foamed-on PU gasket upon request.
- ▶ The entire filter element is non-corroding and fully incinerable, as it contains no metal parts. Frame and protection grids are made of halogen-free plastic.
- ▶ Viledon MaxiPleat filters are moisture-resistant up to 100% rel. humidity, thermally stable up to 70°C (temporarily up to 80°C), microbiologically inactive and meet all hygiene requirements for HVAC systems to EN 13779 and the German VDI Guideline 6022. The frame and filter media are self-extinguishing to DIN 53438 (Fire Class F1).

## The extras

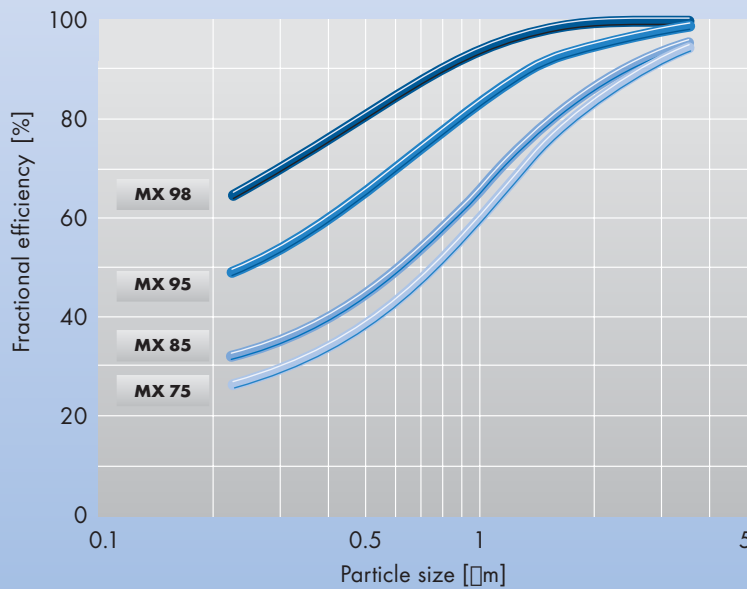
- ▶ With the MaxiPleat Modular Filter System, MaxiPleat filters of different filter classes and depths can be combined in a positive fit by simple plug-on. This allows an additional filter stage to be inserted without any structural modifications (see separate data sheet).
- ▶ The MaxiPleat cassette filters are also available in Filter Classes H11 and H12, plus in 140 mm depths, with and without a front frame.



## Technical filter data

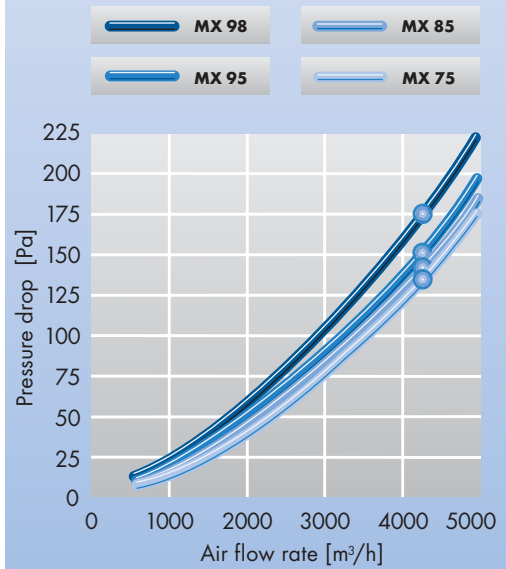
### Initial fractional collection efficiency

plotted against particle size at nominal air flow rate



### Initial pressure drop curves

● Nominal air flow rate



### Key data

			MX 75	MX 85	MX 95	MX 98
▶ Average efficiency (0.4 µm)	%		75	86	92	96
▶ Nominal air flow rate ●	m³/h		4250	4250	4250	4250
▶ Max. permissible air flow rate	m³/h		5500	5500	5500	5500
▶ Initial pressure drop	Pa		135	140	150	175
▶ Recommended final pressure drop *	Pa		650	650	650	650
▶ Bursting strength **	Pa		> 6000	> 6000	> 6000	> 6000
▶ Dust holding capacity (AC Fine / 800 Pa)	g		2300	1900	1700	1500

\* For cost-efficiency or system-specific reasons it may be appropriate to change the filters before reaching the stated final pressure drop. It can also be exceeded in certain applications.

\*\* Tested by Blue Heaven Technologies, Kentucky, USA

### Available geometries

		1/1	5/6	1/2
▶ Nominal air flow rate	m³/h	4250	3500	2000
▶ Filtering area	m²	18	14.5	7.5
▶ Front frame for mounting frame	mm	592 x 592 x 25 610 x 610	490 x 592 x 25 508 x 610	287 x 592 x 25 305 x 610
▶ Overall depth	mm	292	292	292
▶ Weight, approx.	kg	7	6	4

The figures given are mean values subject to tolerances due to the normal production fluctuations. Our explicit written confirmation is always required for the correctness and applicability of the information involved in any particular case.

Subject to technical alterations.

You will find instructions on how to handle and dispose of loaded filters in our information on product safety and eco-compatibility.

# 3.4

# Støvfilter



## Støvfiler

I bedrifter hvor støv er en vesentlig del av produksjonen er det behov for rensing og beskyttelse.

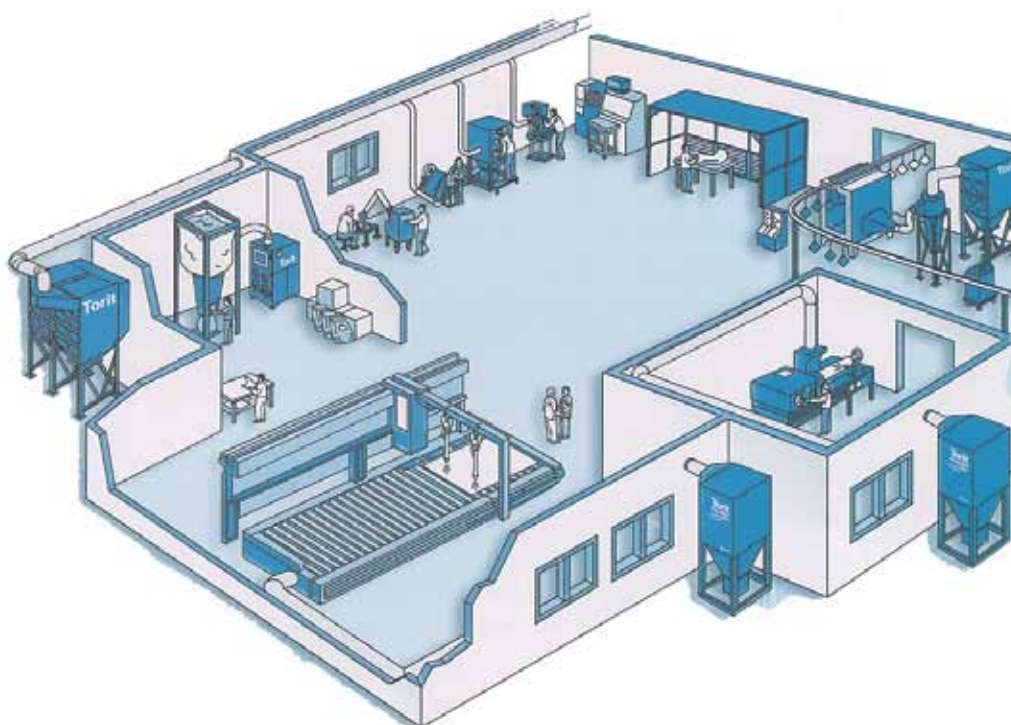
Typiske områder for bruk er:

- Legemiddel
- Næringsmiddel
- Korn- og fôrbehandling
- Sandblåsing
- Havneanlegg
- Sementindustri
- Smelteverk og støperier
- Trebearbeiding

Myndighetene setter krav til utslipp til ytre miljø samt innvendig arbeidsmiljø. Dette løses ved å bruke spesielle filter som beskytter miljøet.

Et vanlig filter vil normalt oppnå en hurtig metningsgrad. Dette løses ved å bruke rengjørbare filter.

**Illustrert et typisk arbeidsmiljø:**



## Filtertyper

Filtermedia til et støvfiler må være av et mekanisk slitesterkt materiale. Filterløsningene finnes i flere ulike utførelser. De mest vanlige er poser, kassetter eller elementer.

- **Når oppnådd trykkfall inntreffer, skjer rengjøring ved trykkpuls eller ved risting.**

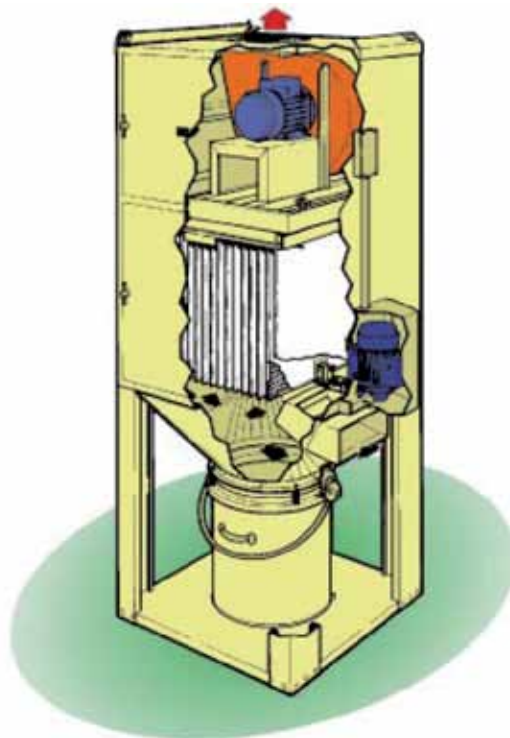
## Principle of Operation

### Air Flow

Contaminated air from the dust generation source is drawn through the inlet to the filter by the fan. Initially some pre-separation takes place as heavier dust particles lose momentum and fall into the collection bin or hopper. Finer dusts are carried up to the filter elements where they are retained on the outer surface of the filter fabric. The cleaner air is then passed through the filter into the fan chamber and discharged.

### Cleaning

When the fan is switched off the filter fabric cleaning cycle is automatically activated. The collected dust is then dislodged from the filter elements and falls into the collection bin below.



### Venting Unit

For venting systems and processes under positive pressure.



### Sack Tipping Unit

Mounted above vessels which are manually charged.



### Venting Unit with dust container

Used in conjunction with free standing fan.



### Hopper Unit

Suitable for location on dust container.



## Changing the World of Dust Collection

### Outperforming Dust Collection Technology

► The new PowerCore® dust collection technology from Donaldson outperforms every traditional baghouse collector and does so in less space. In one extremely small but powerful package, the PowerCore dust collector handles high airflow, high grain loading, challenging particulate, and fits into the smallest places. The filter changeout process is easy, quick, and astoundingly clean compared to traditional filter bags.

► Innovative PowerCore dust collectors combine PowerCore filter packs with a new and patented compact oblique pulse cleaning system, delivering high filtration efficiencies not usually found in baghouse filtration.

### Up to 70 % Smaller

► Today's streamlined and lean manufacturing facilities demand peak performance in the smallest spaces. PowerCore® space-saving dust collectors are available as stand-alone models that can be ducted to many different applications, and bin vent models used on silos, conveyor transfer points, conveyor discharges, blenders and mixers.

► Compared to conventional baghouse collectors with similar airflow capacity, PowerCore CPC<sup>1</sup> dust collectors are up to 50% smaller. The comparison to traditional bag bin vents is even more dramatic. CPV<sup>2</sup> bin vent collectors are almost 70% smaller and solve minimal space requirements.

<sup>1</sup>CPC = Compact Pulsed Cased Unit

<sup>2</sup>CPV = Compact Pulsed Venting Unit



PowerCore® CPC-6 Dust Collector vs. Traditional Baghouse (81 Filter Bags)



PowerCore® CPV-6 vs. Traditional Bin Vent



## Not a Bag, Not a Cartridge

### An Entirely New Approach to Dust Collectors

► The PowerCore® filter pack is small, light-weight, and easily handled by one person. Donaldson's PowerCore technology allows more effective filter area to be packaged in a smaller space: one PowerCore filter pack contains as much filtering area as 6 traditional filter bags. And the filter media inside PowerCore filter packs is our well-proven Ultra-Web® advanced nanofiber technology.

### PowerCore® Filter Pack

- Changeout from the clean side of the collector – only 1 person required
- Self-centering with a handle for easy changes without tools
- Intergrated gasket ensures a good seal with every change.



*Just one 178 mm deep Power Core filter pack replaces six 2,4 m long filter bags.*



### PowerCore® Advantages

- Smaller
- Smarter
- Easy maintenance
- Cost effective

[www.emea.donaldson.com/powercore](http://www.emea.donaldson.com/powercore)

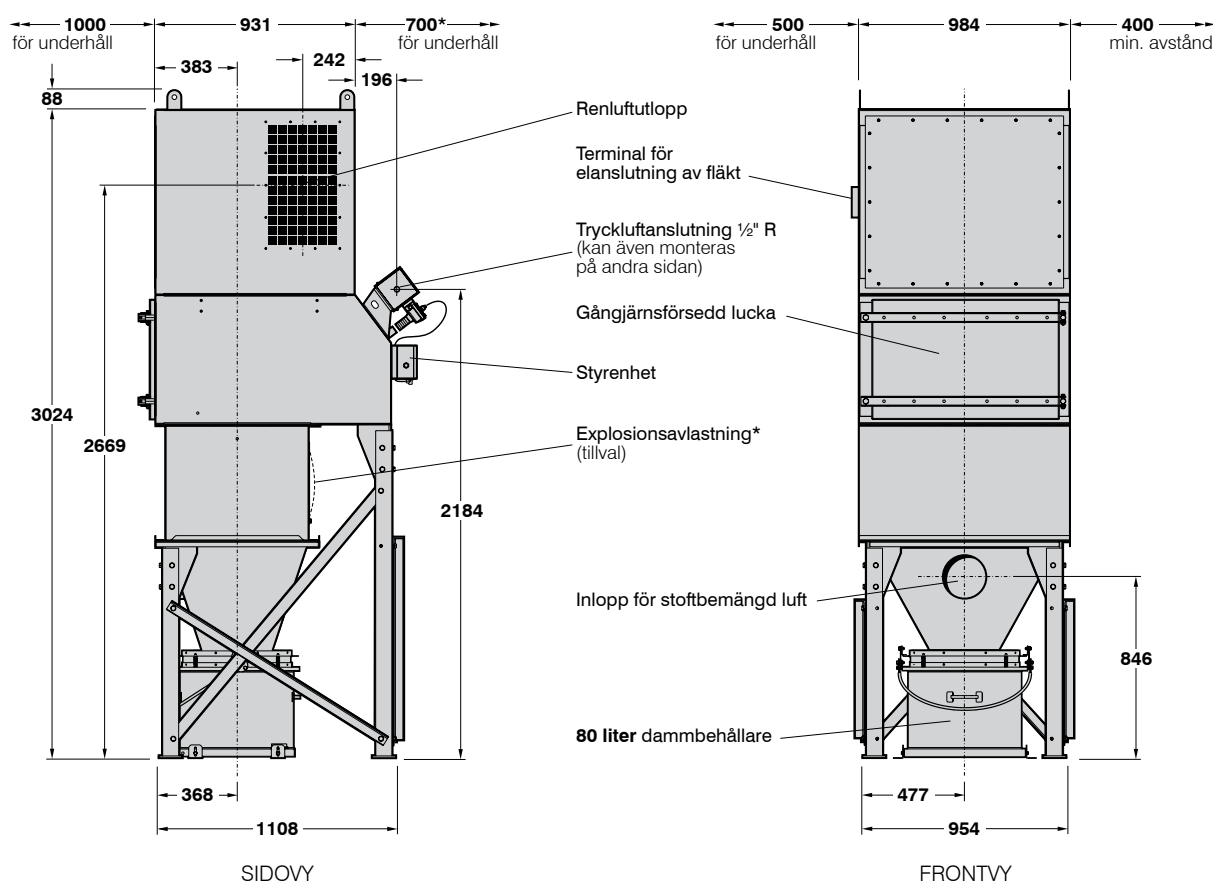


# PowerCore® Dammfiler Serie CPC



## CPC-3 DAMMFILTER MED DAMMBEHÅLLARE

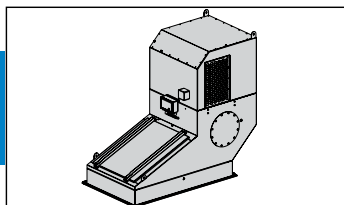
Lämpliga för inom- och utomhusbruk.



\* Om filtret är utrustat med explosionsavlastning, så måste det finnas ett utrymme på minst 500 mm på insamlarens baksida för att garantera att explosionsventileringsprocessen fungerar effektivt. Hänsyn måste tas till lokalområdet runt omkring med tanke på tryck- och flameffekter.

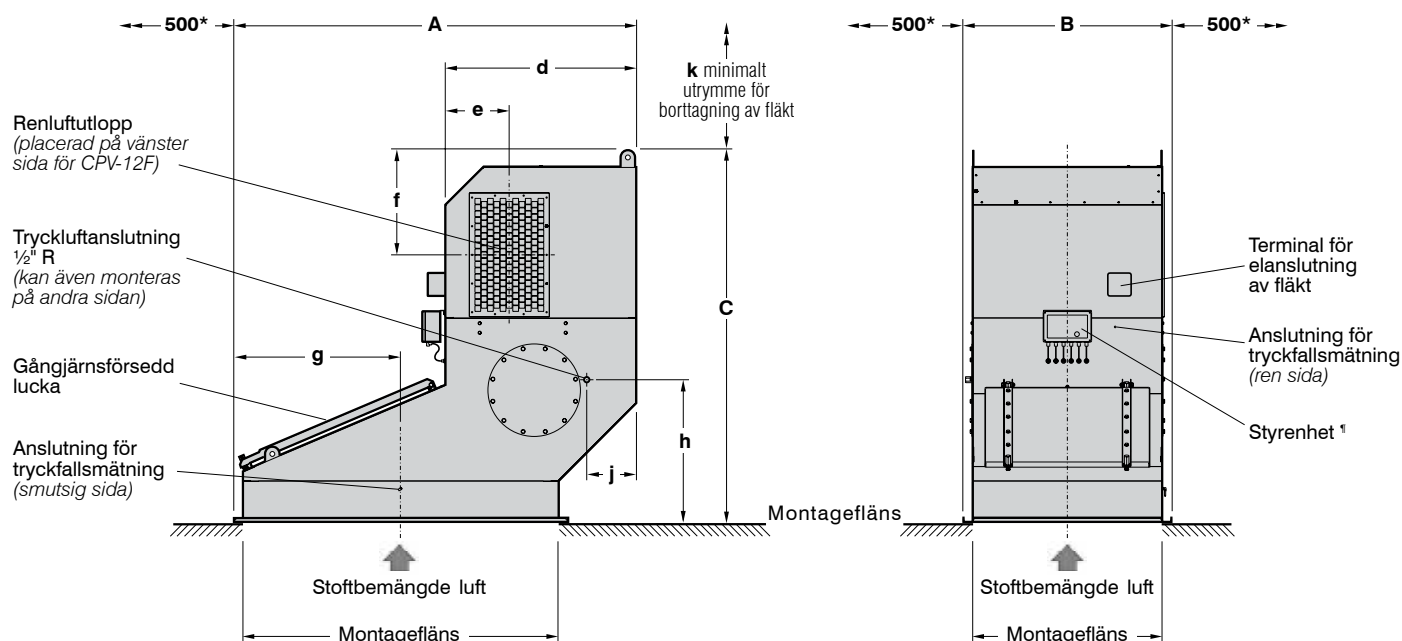
Filtertyp	Filteryta (Ultra-Web®)	Filteryta filterelementen	Inloppsstos (Ø invändigt)	Fläkt	Motoreffekt	Ungefärlig nettovikt
CPC-3F	18,6 m <sup>2</sup>	3	Ø200 mm	K5	2,2 kW	613 kg
				K7	3,0 kW	638 kg
				SF40	4,0 kW	689 kg
				K10	5,5 kW	668 kg

# PowerCore® Dammfilter Serie CPC



## POWERCORE DAMMFILTER MED FLÄKT

Lämpliga för inom- och utomhusbruk.  
(CPV-6F illustrerad).



SIDOVY

FRONTVY

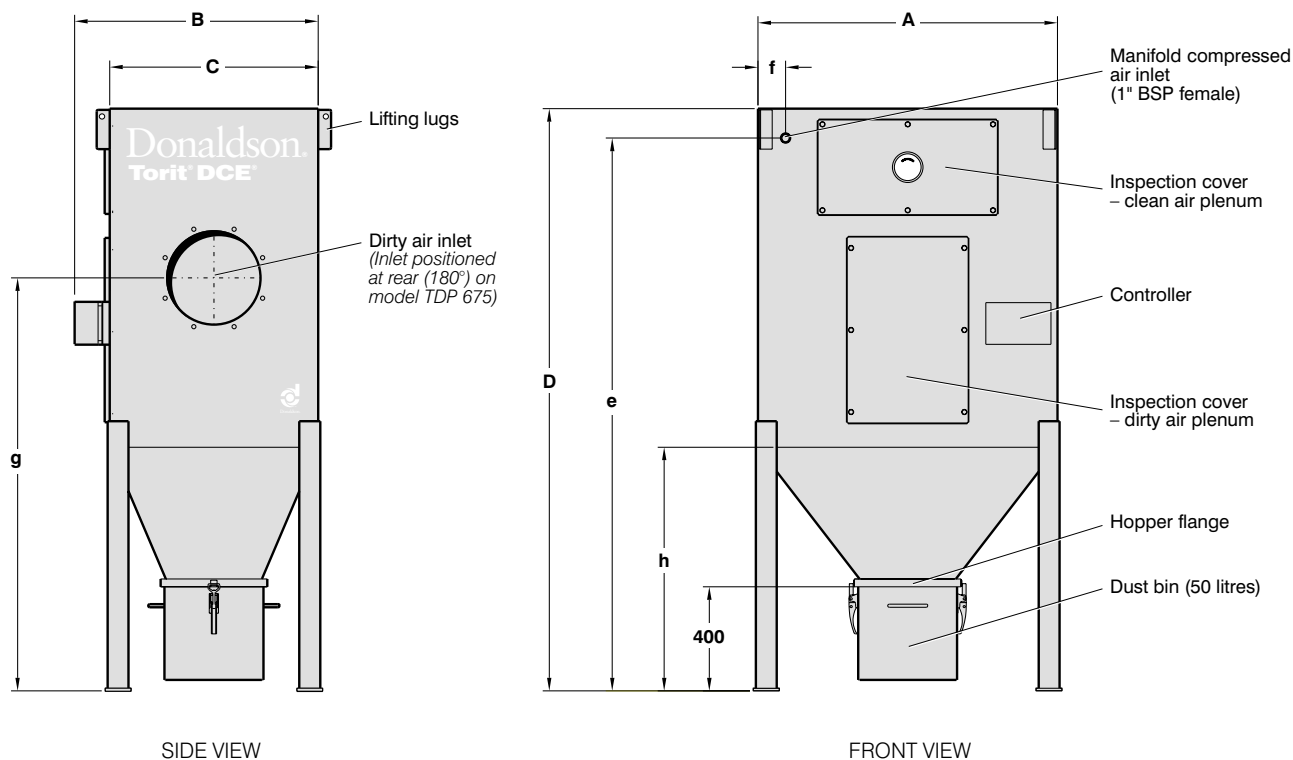
\* Utrymme för underhåll. Är utrymmet begränsat kontakta Donaldson.

† Avskiljaren kan som tillval vara utrustad med en TCB-styrenhet som sitter på en av avskiljarens sidor.

Filtertyp	Filteryta (Ultra-Web®)	Antal filter- elementen	DIMENSIONER i millimeter										Fläkt	Motor- effekt	Ungefärlig nettovikt
			A	B	C	d	e	f	g	h	j	k			
CPV-2F	12,4 m <sup>2</sup>	2	1297	756	1609	850	268	471	494	746	200	515	F1 K3	0,75 kW 1,50 kW	276 kg 291 kg
CPV-3F	18,6 m <sup>2</sup>	3	1297	1010	1739	850	312	508	494	746	200	650	K3 VCM 401	1,50 kW 1,50 kW	362 kg 378 kg
CPV-4F	24,8 m <sup>2</sup>	4	1297	1264	1794	850	312	563	494	746	200	700	K5 K7	2,20 kW 3,00 kW	444 kg 469 kg
CPV-6F	37,2 m <sup>2</sup>	6	2110	1090	1947	1000	335	548	875	746	260	700	K7 G8	3,00 kW 5,50 kW	533 kg 568 kg
CPV-8F	49,6 m <sup>2</sup>	8	2110	1264	1947	1000	335	548	875	746	260	700	K7 K10	3,00 kW 5,50 kW	595 kg 625 kg
CPV-12F	74,4 m <sup>2</sup>	12	2110	1823	2169	1000	500	720	875	746	260	1100	K11 ART 502	7,50 kW 7,50 kW	972 kg 946 kg

Alla vikter den tyngsta konstruktionen.

## TDP Dust Collectors



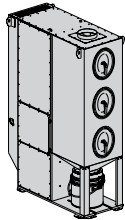
**TDP standard dust collector**  
Model TDP 900 illustrated

SPECIFICATIONS												
Model	No. of filter elements	Filtration area*		DIMENSIONS in mm								Approx net weight
		UW	FW	A	B	C	D	e	f	g	h	
<b>TDP 450</b>	2	42m <sup>2</sup>	20.6m <sup>2</sup>	660	905	770	2176	2063	104	1551	876	270 kg
<b>TDP 675</b>	3	63m <sup>2</sup>	30.9m <sup>2</sup>	1150	935	800	2236	2123	175	1610	936	350 kg
<b>TDP 900</b>	4	84m <sup>2</sup>	41.2m <sup>2</sup>	1150	935	800	2236	2123	106	1586	936	350 kg
<b>TDP 1350</b>	6	126m <sup>2</sup>	61.8m <sup>2</sup>	1150	1285	1150	2236	2123	106	1536	936	430 kg

\* UW = Ultra Web® FW = Fibra Web®

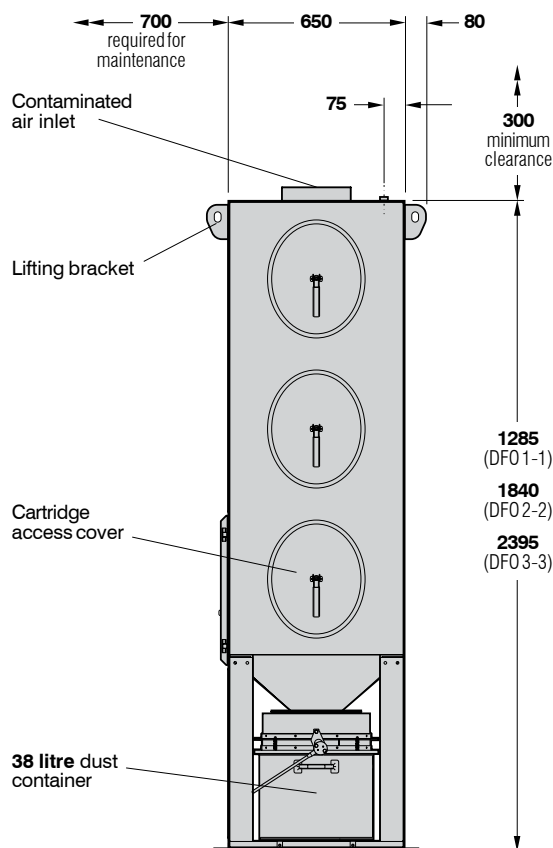
# Downflo® Oval Dust Collectors

## Series DFO 1-1, 2-2 and 3-3

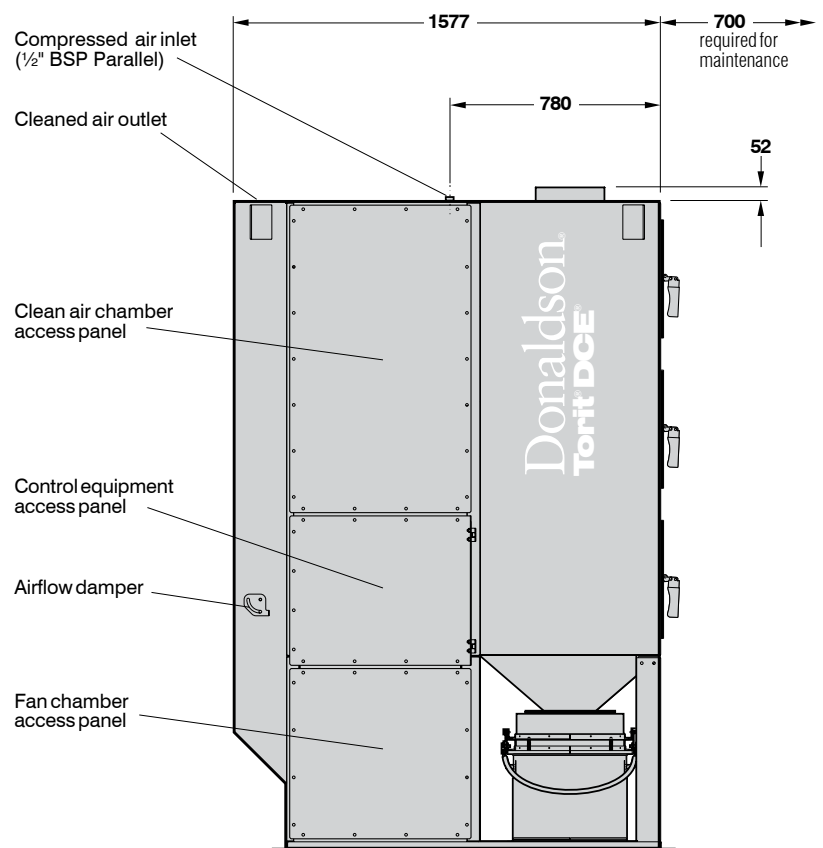


### DFO STANDARD DUST COLLECTOR

Suitable for inside locations and outside when fitted with optional weather cowl. (DFO 3-3 illustrated).



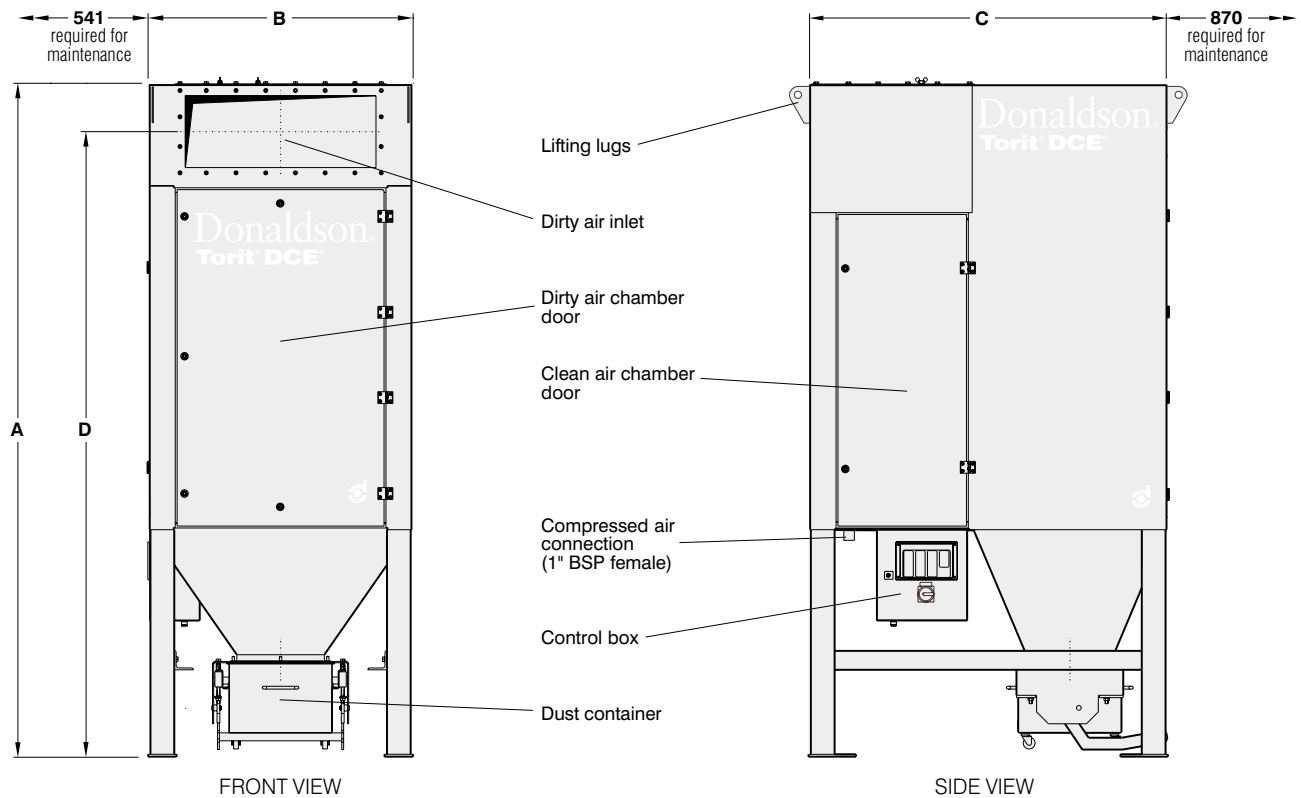
FRONT ELEVATION



SIDE ELEVATION

Type	Filtration area (Ultra-Web®)	Number of cartridges	Fan	Motor rating	Net weight (approx.)
DFO 1-1	17.7 m <sup>2</sup>	1	K3	1.5 kW	355 kg
			K5	2.2 kW	364 kg
DFO 2-2	35.4 m <sup>2</sup>	2	K3	1.5 kW	445 kg
			K5	2.2 kW	454 kg
			K7	3.0 kW	450 kg
DFO 3-3	53.1 m <sup>2</sup>	3	K5	2.2 kW	580 kg
			K7	3.0 kW	576 kg
			G8	5.5 kW	601 kg

# DFPRO Dust Collectors



## DFPRO STANDARD DUST COLLECTOR

Model DFPRO 6 illustrated

DIMENSIONS (in mm)		DFPRO 6	DFPRO 8	DFPRO 12	DFPRO 16
<b>Standard</b> (400 mm hopper clearance*)	A (Height)	2750	3205	2750	3205
	B (Width)	1100	1100	2100	2100
	C (Depth)	1500	1500	1500	1500
	D (Height to Inlet)	2594	3004	2531	2986
	Number of filter elements	6	8	12	16
	Filtration area (Ultra Web®)	106.0 m²	141.2 m²	211.8 m²	282.4 m²

\*For 1065 mm hopper clearance add 665 mm to height 'A'. For 1500 mm hopper clearance add 1100 mm to height 'A'.

## DESIGN SPECIFICATIONS (standard equipment)

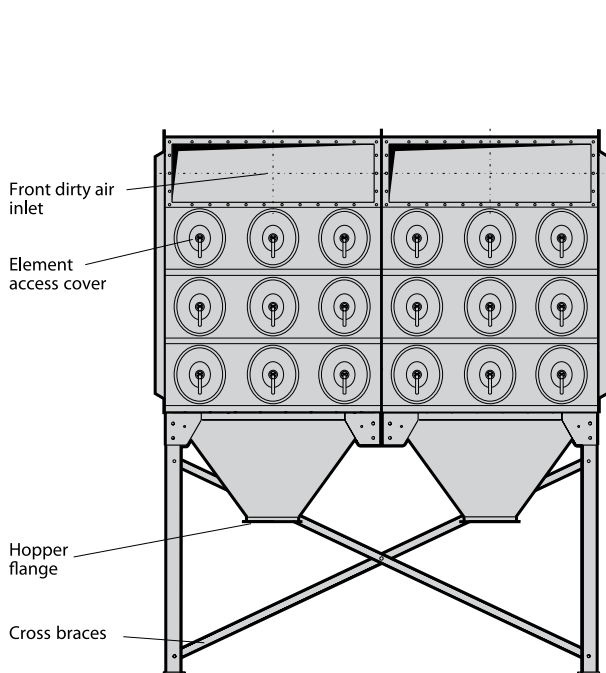
**Operating temperature:** -10° to +65°C

**Maximum operating pressure range:** ±5 kPa (500 mm WG)

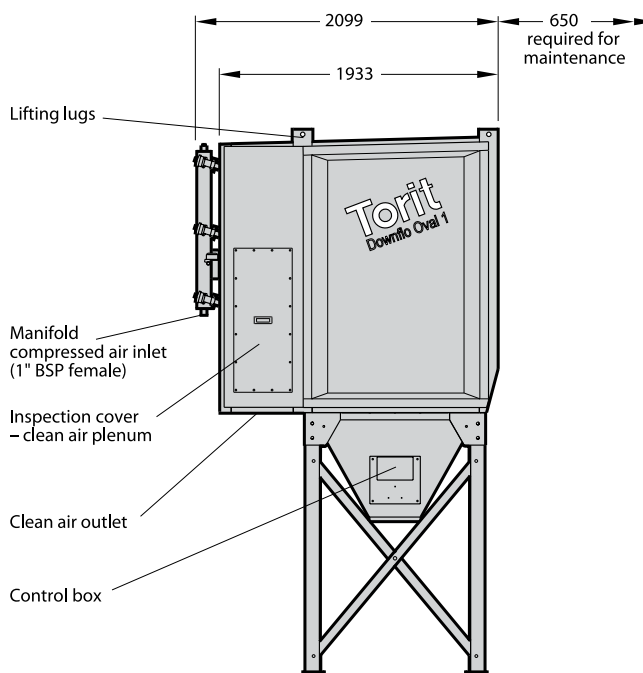
**Wind load rating:** 160 km/h

**Finishing:** Acrylated alkyd paint colour RAL 5019 (blue) – semi gloss

# Downflo® Oval 1 Dust Collector



FRONT VIEW



SIDE VIEW  
(Applicable to all models)

DFO standard dust collector  
Model DFO 3-36 illustrated.

## DESIGN SPECIFICATIONS (standard equipment)

Operating temperature:  $\pm 10^{\circ}$  to  $\pm 65^{\circ}\text{C}$

Maximum operating pressure range:  $\pm 5$  kPa (500 mm WG)

Wind load rating: 160 km/h

Finishing: Acrylated alkyd paint colour RAL 5019 (blue) – semi gloss

# 3.5 Motorfilter luftinntak





# ECB, ECC, ECD DuraLite™ for Light Dust Conditions

## ECB, ECC, ECD DuraLite™ Technology

*Rugged Air Cleaners for  
Small and/or High Pulsation  
Gas & Diesel Engines*



Donaldson's DuraLite™ air cleaners are tough, non-metallic, lightweight, self-supporting and completely disposable. They are also easy to install, durable, and reliable.

They are designed to function well under high and severe pulsation conditions found in many applications, especially two- and three-cylinder engines. Vibration-resistant media is potted into molded housings of rugged ABS plastic – so they don't fall apart as other designs might.

RadialSeal™ Air Cleaners

## ECB, ECC, ECD DuraLite™ Applications

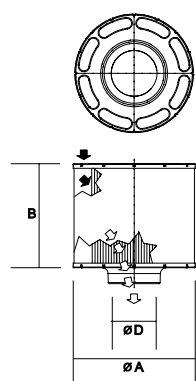
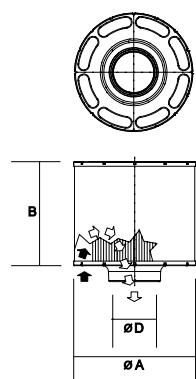
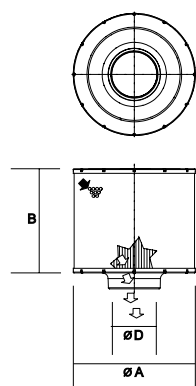
- Can be mounted vertically or horizontally.
- Provides variety of airflow volumes to engine: from 1,2 to 36,7 m³/min.
- Temperature tolerance: 83°C continuous, 105°C intermittent.

## Features

- No serviceable parts! Air cleaner housing and filter are one unit!
- Designed to withstand severe intake pulsation.
- Economical replacement cost.
- Self-supporting, sturdy.
- Very reliable: only one critical seal.
- Lightweight and compact in size.
- Non-metallic, non-corrosive... ideal for marine applications.
- Completely disposable... acceptable for normal trash pick-up (DuraLite™ should not be incinerated).
- Easily installed & maintained.
- Minimal removal clearance needed: only 38mm.
- Three airflow styles available to fit virtually any engine intake configuration.
- Various media available for specific applications: high pulsation, high humidity, etc....

# ECB, ECC, ECD DuraLite™ for Light Dust Conditions

## RadialSeal™ Air Cleaners



## ECB, ECC, ECD DuraLite™ Specifications

Curve No.	Style	Air Cleaner Model No.	Airflow Range m³/min.	Dimensions (mm)		
				A	B	D
1	ECB	B085001	6,2 - 12,0	216	279	76
1	ECB	B085048**	6,2 - 12,0	216	279	76
2	ECB	B085011	7,4 - 14,0	216	279	102
2	ECB	B085046**	7,4 - 14,0	216	279	102
3	ECB	B085056**	27,0 - 49,0	196	260	152
4	ECB	B100094**	15,0 - 27,0	267	228	102
5	ECB	B105002*	16,0 - 30,0	267	381	127
6	ECB	B105006	13,0 - 25,0	267	267	102
7	ECB	B105012**	18,0 - 36,0	267	381	127
8	ECB	B120376**	30,0 - 90,0	318	400	198
9	ECB	B125003*	16,0 - 31,0	318	381	153
10	ECB	B125005**	25,0 - 42,0	318	229	140
11	ECB	B125011**	22,0 - 39,0	318	228	127

Curve No.	Style	Air Cleaner Model No.	Airflow Range m³/min.	Dimensions (mm)		
				A	B	D
12	ECC	C045001*	1,4 - 2,7	114	114	38
13	ECC	C045002*	1,8 - 3,4	114	203	38
14	ECC	C055002*	1,9 - 3,6	140	178	45
15	ECC	C055003*	1,5 - 2,9	140	102	45
16	ECC	C055008*	2,0 - 3,9	140	242	45
17	ECC	C065001*	1,7 - 3,2	165	102	51
18	ECC	C065002*	2,6 - 4,9	165	190	51
19	ECC	C065003*	2,5 - 4,8	165	127	57
20	ECC	C065004*	3,3 - 6,2	165	229	57
21	ECC	C065015**	3,0 - 5,6	165	229	51
22	ECC	C085001*	2,7 - 5,1	216	102	64
23	ECC	C085002*	3,4 - 6,3	216	165	64
24	ECC	C085003*	3,6 - 6,7	216	127	76
25	ECC	C085004*	5,0 - 9,6	216	241	76
26	ECC	C085005*	2,9 - 5,4	216	127	64
27	ECC	C085006*	3,5 - 6,5	216	241	64
28	ECC	C105003	8,7 - 17,0	267	152	102
29	ECC	C105004	10,5 - 20,0	267	267	102
30	ECC	C125003	10,0 - 19,0	317	152	127
31	ECC	C125004	14,0 - 26,5	317	279	127

Curve No.	Style	Air Cleaner Model No.	Airflow Range m³/min.	Dimensions (mm)		
				A	B	D
32	ECD	D045003*	1,4 - 2,8	114	114	38
33	ECD	D045004*	1,45 - 2,9	114	152	38
34	ECD	D055004*	1,8 - 3,5	140	178	45
35	ECD	D065003*	1,6 - 3,0	165	102	51
36	ECD	D065008**	3,5 - 6,6	165	229	51
37	ECD	D085011	8,0 - 15,5	197	655	106
38	ECD	D085012	2,5 - 7,5	197	258	106
39	ECD	D125004	12,0 - 23,0	317	279	127

\* High pulsation media  
\*\* Marine application

# Designed to Fit Manufactured to Perform



... solve complex filtration challenges that improve people's lives, enhance engine and equipment performance and protect our environment.

A New Generation of Hybrid Air Cleaners featuring Donaldson's Unique Design Concept

Air Cleaners equipped with Donaldson's Unique Design Concept ensure you

**UNIQUE  
DESIGN  
CONCEPT**

**NEW**

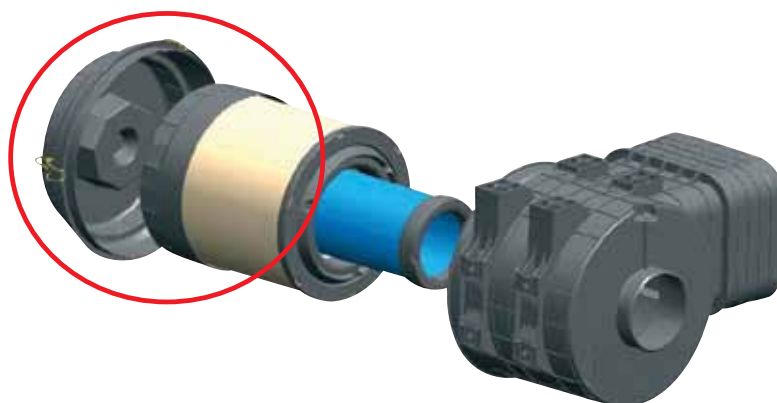
## 1) The best protection for your Engine:

- Via a unique fit of the element into the access cover, rotation of the element is prevented which improves durability of the radial seal.
- The unique interface between the primary element and access cover assures best fit and function and is achieved only with the Donaldson original elements, discouraging use of low quality will-fit elements.
- New moulded polymer closed end cap works in conjunction with the element retention system resulting in outstanding durability and safer manipulation of your element.
- A plastic liner outer instead of a metal one prevents media pleat tip wear and improves handling protection.

## 2) The best protection for our Environment:

- Reduced metal content.

See the ERB2, FRG2 and SPB2 Air Cleaner Section for more details on these next generation products.



**Patent Pending for Donaldson's  
Unique Design Concept.**

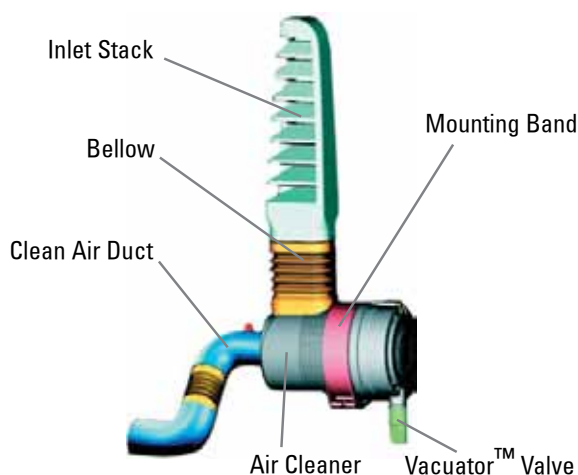
# Simple Facts on Air Filtration

... common terms and definitions.

## Why an Air Intake System?

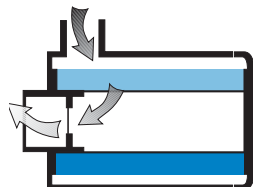
Air is a critical component of combustion for a diesel engine. If the air reaching the engine is not clean, the engine will lose efficiency and have engine wear. The engine will run longer and more efficiently with a proper air intake system that is designed to keep the engine intake air as clean as possible by removing particulate matter or debris that would cause engine wear and ultimately failure.

## Components Air Intake System



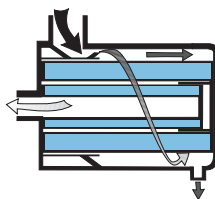
## Air Cleaner Types

### One-Stage Air Cleaners



Air Cleaners in which the air goes through the inlet and directly to the main element are considered one-stage air cleaners. One-stage air cleaners are typically used where there is less contaminate in the environment, such as in on-road applications.

### Two-stage Air Cleaners



Air entering a two-stage air cleaner is first pre-cleaned before reaching the main element. The air may either be sent through pre-cleaner tubes or cleaned by centrifugal flow around the filter. Depending on the type of pre-cleaner, the pre-cleaner removes between 75-98% of the contaminate from the air before the air reaches the main element. Two stage air cleaners are recommended for use in medium- and heavy dust environments, such as in agricultural, construction, and mining applications.

## Element types

### Main Element

Is the filter element in the air cleaner that removes around 99,9%+ of the air's dust. The air flows through the main element first.

### Safety Element

Is an optional element that protects the engine during servicing of the main element and in case of a leak in the main element.



## EPB - ERB2 Air Cleaner

**Primary Dry RadialSeal™ Air Cleaners which offer improved reliability and durability, reduced weight and costs and better serviceability.**

The EPB-ERB2 Primary Dry RadialSeal™ Air Cleaners are used on light-duty applications like on-highway vehicles, stand-by generator sets and all other light-duty applications. They are also used on medium- and heavy-duty applications but than always combined with a Pre-Cleaner.

For more details on EPB-ERB2 Air Cleaners with Pre-Cleaners operating in Medium Dust conditions see page 60-63 and in Heavy Dust conditions see page 93-96 .



The EPB Air Cleaner is a one-stage full-plastic air cleaner

Patent Pending for  
Donaldson's  
Unique Design  
Concept.



The ERB2 Air Cleaner is a one-stage hybrid air cleaner. It is the Next Generation ERB Air Cleaner Product featuring Donaldson's Unique Design Concept. For more details on this UDC Feature, see page 7.

### Applications EPB-ERB2

- Can be mounted vertically or horizontally
- Provides variety of airflow volumes to engine: from 2 to 65 m³/min.
- Temperature tolerance: to 83°C continuous / 105°C intermittent.

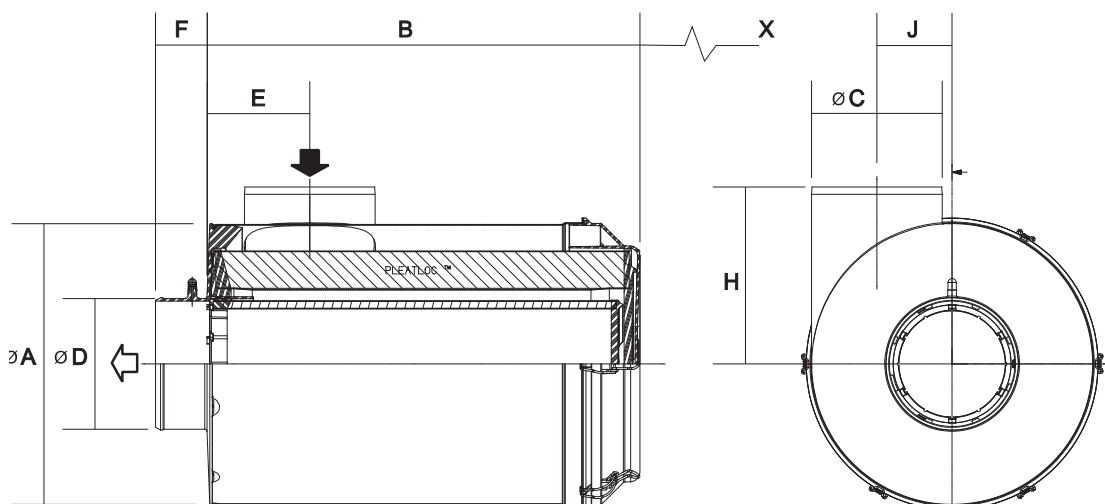
### Features EPB-ERB2

- Cost effective / Compact and light
- Flexible installation / Conquers underhood space limitations
- Reliable, durable, high-tech and easy to service design
- Proven RadialSeal™ Technology
- Pre-cleaner can be added / Tapped for restriction indicator as standard
- Filter inside air cleaner is different from filters with metal end caps
- One-piece molded end caps encase the ends of media and filter liners
- Filter fits over the housing outlet tube, creating a reliable seal - with no hassle of separate sealing gaskets
- Indicator thread size = 1/8-27NPT (MALE)



## EPB - ERB2 Air Cleaner

### EPB Specifications - Service Parts



Air Cleaner Model No.	Airflow m <sup>3</sup> /min.	Range Dimensions (mm)									
		A	B	C	D	E	F	H	J	X°	Z°°
B070005*	2 - 5	182	334	76	76	45	27	115	145	340	45
B080067*	4 - 7	210	355	95	89	54	31,5	130	146	355	110

\* Includes safety element  
X° Free space needed to remove main element    Z°° Free space needed to remove cover

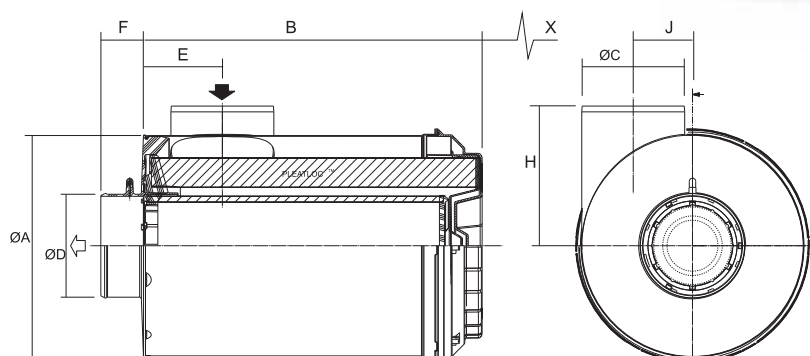
Service Parts					
Air Cleaner Model No.	Main Element	Safety Element	Access Cover Assy*	Raincap	Mounting band**
B070005	P772579	P775300	P778758	H001379	P777731
B080067	P772580	P775302	P775305	H770010	P777732

\* Spare Part only      \*\* Only one mounting band needed per Air Cleaner



# EPB - ERB2 Air Cleaner

## ERB2 Specifications - Service Parts



**NEW** **UNIQUE DESIGN CONCEPT**



### ERB2 ERB Air Cleaners

<b>B100126</b>	<b>B100120</b>
<b>B130057</b>	<b>B130010</b>
<b>B130058</b>	<b>B130013</b>
<b>B150058</b>	<b>B150025</b>
<b>B150059</b>	<b>B150028</b>
<b>B180016</b>	<b>B180011</b>
<b>B180017</b>	<b>B180012</b>

Air Cleaner Model No.	Airflow m <sup>3</sup> /min.	Range Dimensions (mm)									
		A	B	C	D	E	F	H	J	X°	Z°°
B100126*	8 - 14	259	430	114	102	143	52	205	0	400	75
B130057	18 - 30	330	530	178	152	180	58	215	0	360	95
B130058*	18 - 28	330	530	178	152	180	58	215	0	360	95
B150058*	18 - 32	381	590	178	178	136	70	241	102	540	93
B150059	18 - 32	381	590	178	178	136	70	241	102	540	93
B180016	32 - 65	457	650	254	203	282	85	328	0	600	130
B180017*	32 - 65	457	650	254	203	282	85	328	0	600	130

\* Includes safety element    X° Free space needed to remove main element    Z°° Free space needed to remove cover

### Service Parts

ERB2 Air Cleaner	Main Element	Kit Number •	Access Cover Assy*	Raincap	Mounting band**
B100126	P785388	X770685	P784954	H770012	P004076
B130057	P785610	-	P783693	H770089	P013722
B130058	P785610	X770686	P783693	H770089	P013722
B150058	P785426	X770687	P784869	H770089	P016845
B150059	P785426	-	P784869	H770089	P016845
B180016	P785394	-	P785546	H770082	H770037
B180017	P785394	X770688	P785546	H770082	H770037

- \* Spare Part only    \*\* Two mounting bands needed per Air Cleaner  
• Safety element can only be bought as a kit meaning together with the main element

# EPB - ERB2 Service Instructions

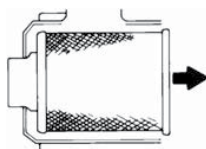
## 1 Remove the Filter

Unfasten or unlatch the service cover.



Rotate the filter while pulling straight out.

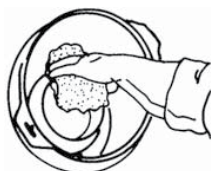
Because the filter fits tightly over the outlet tube to create the critical seal, there will be some initial resistance, similar to breaking the seal on a jar. Gently move the end of the filter back and forth to break the seal then rotate while pulling straight out. Avoid knocking the filter against the housing.



If your air cleaner has a safety filter, replace it every third primary filter change. Remove the safety filter as you would the primary filter. Make sure you cover the air cleaner outlet tube to avoid any unfiltered contaminant dropping into the engine.

## 2 Clean Both Surfaces of the Outlet Tube and Check the Vacuator™ Valve

Use a clean cloth to wipe the filter sealing surface and the inside of the outlet tube. Contaminant on the sealing surface could hinder an effective seal and cause leakage. Make sure that all contaminant is removed before the new filter is inserted. Dirt accidentally transferred to the inside of the outlet tube will reach the engine and cause wear. Engine manufacturers say that it takes only a few grams of dirt to "dust" an engine! Be careful not to damage the sealing area on the tube.



Outer edge of the outlet tube

Wipe both sides of the outlet tube clean.



Inner edge of the outlet tube

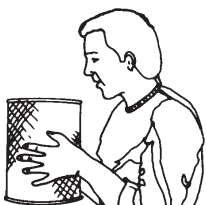
If your air cleaner is equipped with a Vacuator Valve

Visually check and physically squeeze to make sure the valve is flexible and not inverted, damaged or plugged.



## 3 Inspect the Old Filter for Leak Clues

Visually inspect the old filter for any signs of leaks. A streak of dust on the clean side of the filter is a telltale sign. Remove any cause of leaks before installing new filter.



## 4 Inspect the New Filter for Damage

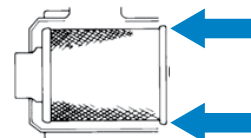
Inspect the new filter carefully, paying attention to the inside of the open end, which is the sealing area. NEVER install a damaged filter. A new Donaldson radial seal filter may have a dry lubricant on the seal to aid installation.



## 5 Insert the New Radial Seal Filter Properly

If you're servicing the safety filter, this should be seated into position before installing the primary filter.

Insert the new filter carefully. Seat the filter by hand, making certain it is completely into the air cleaner housing before securing the cover in place.



The critical sealing area will stretch slightly, adjust itself and distribute the sealing pressure evenly. To complete a tight seal, apply pressure by hand at the outer rim of the filter, not the flexible center. Avoid pushing on the center of the urethane end cap. No cover pressure is required to hold the seal. NEVER use the service cover to push the filter into place! Using the cover to push the filter in could cause damage to the housing, cover fasteners and will void the warranty.

If the service cover hits the filter before it is fully in place, remove the cover and push the filter (by hand) further into the air cleaner and try again. The cover should go on with no extra force.

Once the filter is in place, secure the service cover.



### Caution

NEVER use the service cover to push the filter into place! Using the cover to push the filter in could cause damage to the housing, cover fasteners and will void the warranty.



## 6 Check Connectors for Tight Fit

Make sure that all mounting bands, clamps, bolts, and connections in the entire air cleaner system are tight. Check for holes in piping and repair if needed. Any leaks in your intake piping will send dust directly to the engine!

**ECO® SERIES**

# Light to Medium Duty Industrial Mobile and Marine applications



## ECO Series Spin-On Disposable Air Cleaners

With its revolutionary spin-on design, the completely disposable ECO Series offers faster, safer, more trouble-free service than any other air cleaner today. Built for rugged use, it combines maximum engine protection with fuel-efficient performance and long service life.

The ECO Series provides two significant improvements in engine protection. When the filter loads with dirt and replacement is required, collected dust and debris stay safely contained inside the disposable housing, eliminating the chance of contaminating the air intake system during air filter service. Since the ECO Series uses no clean air gaskets, you never have to worry about gasket leakage. The outlet simply hooks up to the intake with a rubber connection and clamp, creating a leak-tight seal.

Air flow distribution and dust loading are uniform throughout the high-performance filter cone pack, resulting in increased capacity and lower pressure differential for improved horsepower and fuel economy.

All ECO Series Spin-On Filters feature water-resistant media for improved performance and optimum life.

All Eco media are SAE rated to 99.9% efficiency (SAE J726C).

And most importantly, during changeouts, there are no seals or gaskets to replace.

### ECO II

Beaded outlet

The first cone-type filter element that is both tapered and offset

Water-resistant media provides three to five times longer filter life than conventional designs

More usable media area than conventional filters

Paper pleats are permanently locked in place for reliable performance

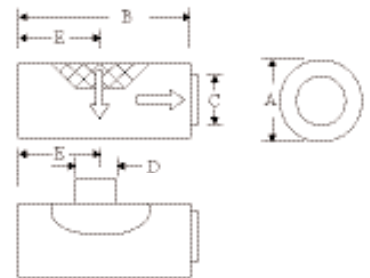
Media is SAE-rated to provide average efficiency of 99.9% (SAE J726C), with no seals or gaskets to replace.

Requires no additional room to service element



The ECO II was designed to provide lower replacement element cost on an **under hood truck application** due to the 2-piece design. The Inlet Adapter is a separate piece that stays on the truck and is purchased separately.

The ECO II used without the Inlet Adapter has become the standard in the Generator Set market. Air Flow is Outside-In with water drain holes around the perimeter.

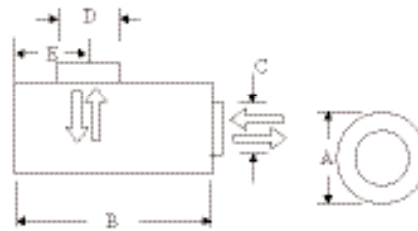


Part No.	Dimensions					Air Flow (CFM)			Weight	
	(Diameter) A	(Length) B	(Outlet) C	(Inlet) D	E	4" w.g.	6" w.g.	8" w.g.	lbs	kg
071338001	9.75	24	6	No Inlet Adapter	9.0	750	940	1100	12.5	5.7
				6		820	1040	1220	15.5	7.1
071338002	11	24	7	No Inlet Adapter	9.0	920	1180	1380	16.2	7.4
				7		1200	1460	1700	19.2	8.8
071338003	13.5	24	7	No Inlet Adapter	9.0	1120	1390	1600	19.0	8.6
				7		1370	1730	1950	22.0	10.0
071338004	13.5	18	7	No Inlet Adapter	9.0	1140	1440	1600	16.9	7.7
				7		1350	1700	1800	19.9	9.1
071338005	13.5	15	7	No Inlet Adapter	7.5	1140	1440	1600	14.0	6.3
				7		1350	1700	1800	17.0	7.7
071338006	13.5	24	7	No Inlet Adapter	9.0	1080	1370	1590	19.36	8.78
				7		1300	1710	1780	22.3	10.1
071338007	11	24	7	No Inlet Adapter	11.5	920	1190	1390	14.51	6.5
				7		1200	1460	1700	17.45	7.9
071338008	9.75	18	6	No Inlet Adapter	9	710	930	1070	9.13	4.14
				6		920	1030	1190	12.1	5.5
071338009	13.5	24	7	No Inlet Adapter		1210	1600	1910	9.00	5.5

# Light to Medium Duty Industrial Mobile and Marine applications

## ECOLITE

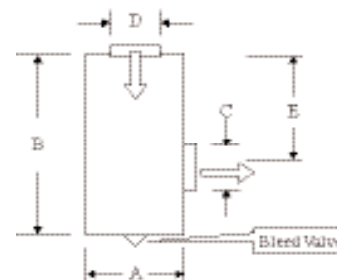
The original ECO Series product, the ECOLITE is still the only air filter in the industry that you **can flow air either direction**. This allows a variety of installation options with the same part number replacement element. The ECOLITE can be mounted in any orientation or convenient location; under the hood or outside, direct or remote.



- Tapered offset cone design assures uniform air distribution, minimizes air restriction and maximizes element service life.
- Positive barrier, pleated paper media is set in a superior quality adhesive for a permanent seal.
- The only air filter available with choice of flow directions in a single part number.
- Airflow may enter or exit end opening.

## ECO-BC (Behind the Cab)

Designed for behind the cab installation on trucks, the ECO-BC must be mounted **vertical with Inside-Out Air Flow**. Also is used for under hood and engine compartment applications. The **rubber drain valve** in the bottom of the unit allows any ingested water or dirt to drain out.

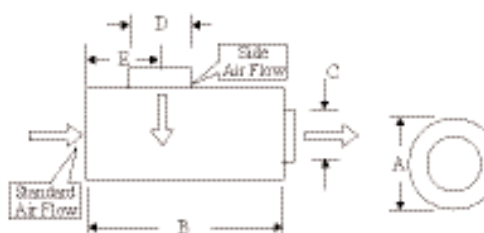
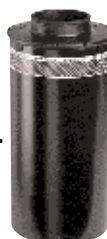


This Spin-On disposable air cleaner features a Slimline design for vertical installations requiring tight or limited space restrictions such as behind the truck cab.

- Inside-out vertical applications only.
- Drain valve in base for water removal.

## ECO-SE (Small Engine Applications)

The ECO-SE is designed for small engine applications. It also has two unique features. First, it has a **urethane outlet tube** which allow the filter to be mounted directly to a metal tube or turbo without an additional rubber connection. Second, the standard unit is a straight through air filter, **air goes in one end and out the other**. Intake adapters are available if you would like to remotely locate the intake. The **side inlet** version offers additional mounting flexibility.



- For light and medium duty applications; smaller mobile and stationary engines up to 300 hp.
- Easy to service, compact, lightweight, high-efficiency design.
- Durable urethane outlet eliminates additional rubber connection.
- Straight-thru design improves pressure differential in smaller engine air intakes.
- Beaded cavity outlet.
- Drain holes for water removal.

Part No.	Dimensions					Air Flow (CFM)			Weight	
	(Diameter) A	(Length) B	(Outlet) C	(Inlet) D	E	4" w.g.	6" w.g.	8" w.g.	lbs	kg
062891001	9.75	24	6	6	5.5	820	1020	1200	16.0	7.3
062891002	11	24	7	7	5.5	1100	1420	1650	19.0	8.6
062891003	13.5	24	7	7	5.5	1375	1730	1900	27.0	12.3
062891004	13.5	18	7	7	5.5	1070	1350	1590	16.3	7.4
062891005	13.5	24	7	7	12.0	1375	1730	1900	27.0	12.3
062891007	9.75	24	6	6	12.0	820	1020	1200	16.0	7.30
062891010	13.5	15	7	7	5.5	1025	1300	1540	15.27	6.93

Part No.	Dimensions					Air Flow (CFM)			Weight	
	(Diameter) A	(Length) B	(Outlet) C	(Inlet) D	E	4" w.g.	6" w.g.	8" w.g.	lbs	kg
094973001	11	24	7	7	5.6	1120	1450	1600	19.0	8.6
094973002	13.5	24	7	7	5.6	1450	1620	1750	27.0	12.3
094973003	9.75	24	6	6	5.6	875	1100	1250	16.0	7.3
094973004	9.75	18	6	6	9.1	720	900	1060	10.42	4.73
094973005	13.5	15	7	7	9.6	980	1240	1470	15.43	7.00
094973006	11	18	7	6	5.6	810	1020	1200	12.64	5.73
094973007	11	18	7	7	5.6	1010	1270	1490	12.50	5.67

Part No.	Dimensions					Air Flow (CFM)			Weight	
	(Diameter) A	(Length) B	(Outlet) C	(Inlet) D	E	4" w.g.	6" w.g.	8" w.g.	lbs	kg
114500001	6.75	13.8	3	NA	NA	240	300	340	5.0	2.3
114500002	7.75	15.8	4	NA	NA	355	440	510	6.5	3.0
114500003	9.75	18.8	5	NA	NA	610	760	890	7.9	3.6
117122000	11	24	7	NA	NA	780	960	1180	12.9	5.9

### ECO-SE Side Inlet

114880003	9.75	16.9	5	6	4.0	600	760	900	9.0	4.1
114880005	7.75	15.8	4	6	5.5	420	570	800	7.0	3.2



## Medium Standard Air Filters

### Applications

Racor Standard Air Filters are designed to be connected to the air intake of the gasoline or diesel engine.

Applications include:

- Agricultural machinery.
- Earth-moving equipment.
- Stationary engines; generator sets.
- Trucks, buses & recreational vehicles.
- Material handling equipment.
- Snow removal equipment & street sweepers.

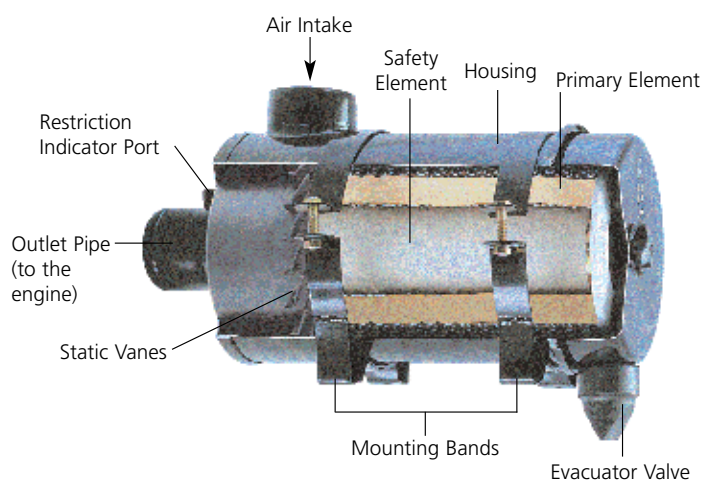
### How they work

Air flows through static vanes (plastic or metal) which causes the air to spin. Centrifugal force separates the heaviest impurities (dust, dirt, insects and other debris) from the air stream. These contaminants are discharged automatically through an integral evacuator valve. Only purified air flows to the air filter elements (primary and safety stages of filtration).



### Heavy Duty Standard Air Filters

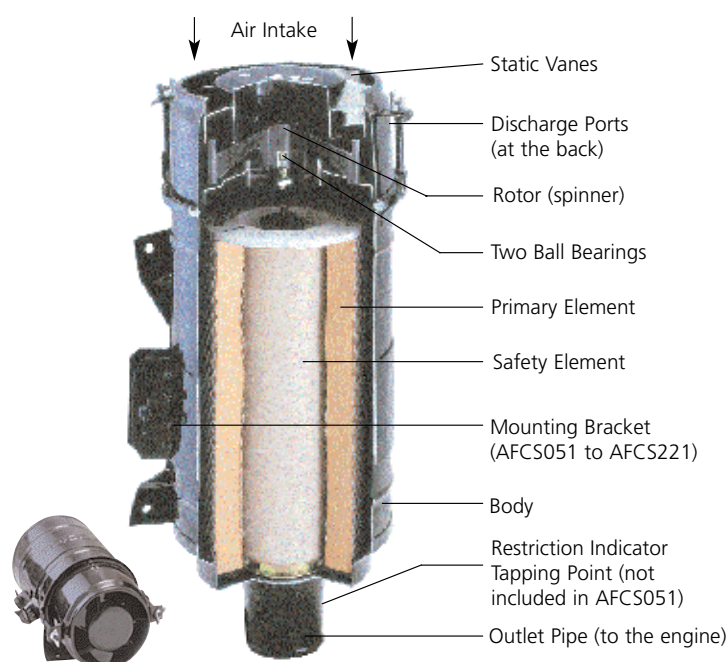
For On-Highway, Off-Highway and Stationary Applications



MODEL	Airflow Range	Horsepower Range	Weight (With filter Elements)	Maximum Length	Maximum Diameter	Inlet Size	Outlet Size	Primary Element	Safety Element
<b>AFSF4</b>	53 to 159 CFM (1.5 to 4.5 m³/min)	30 to 80 HP (22 to 60 KW)	8.40 lbs (3.80 kg)	15.15" (385 mm)	6.50" (165 mm)	2.5" (63 mm)	2.5" (63 mm)	AR6060	AS6121
<b>AFSF6</b>	159 to 212 CFM (4.5 to 6.0 m³/min)	80 to 90 HP (60 to 67 KW)	10.79 lbs (4.90 kg)	16.73" (425 mm)	7.80" (198 mm)	3" (76 mm)	2.75" (70 mm)	AR6122	AS6123
<b>AFSF8</b>	212 to 282 CFM (6.0 to 8.0 m³/min)	90 to 120 HP (67 to 90 KW)	11.70 lbs (5.30 kg)	17.52" (445 mm)	8.50" (216 mm)	3" (76 mm)	3" (76 mm)	AR6144	AS6180
<b>AFSF12</b>	282 to 423 CFM (8.0 to 12.0 m³/min)	120 to 160 HP (90 to 120 KW)	16.50 lbs (7.50 kg)	18.82" (478 mm)	10.08" (256 mm)	4" (102 mm)	4" (102 mm)	AR6067	AS6159
<b>AFSF15</b>	423 to 529 CFM (12.0 to 15.0 m³/min)	160 to 180 HP (120 to 134 KW)	21.92 lbs (9.95 kg)	18.90" (480 mm)	11.06" (281 mm)	4" (102 mm)	4" (102 mm)	AR234401	AS6182
<b>AFSF18</b>	529 to 635 CFM (15.0 to 18.0 m³/min)	180 to 210 HP (134 to 157 KW)	27.55 lbs (12.50 kg)	21.57" (548 mm)	11.42" (290 mm)	4.5" (114 mm)	4" (102 mm)	AR6321	AS6320
<b>AFSF20</b>	635 to 706 CFM (18.0 to 20.0 m³/min)	210 to 250 HP (157 to 187 KW)	31.06 lbs (14.10 kg)	20.79" (528 mm)	12.52" (318 mm)	5.25" (133 mm)	5.25" (133 mm)	AR6277	AS6316
<b>AFSF21</b>	706 to 741 CFM (20.0 to 21.0 m³/min)	240 to 280 HP (179 to 209 KW)	33.90 lbs (15.40 kg)	23.94" (608 mm)	12.52" (318 mm)	5.25" (133 mm)	5.12" (130 mm)	AR246501	AS6220
<b>AFSF310</b>	741 to 988 CFM (20.0 to 21.0 m³/min)	280 to 320 HP (209 to 239 KW)	40.00 lbs (18.15 kg)	23.27" (591 mm)	15.43" (392 mm)	6" (152 mm)	6" (152 mm)	AR6154	AS6221
<b>AFSF430</b>	988 to 1517 CFM (28.0 to 43.0 m³/min)	320 to 450 HP (239 to 335 KW)	78.65 lbs (35.70 kg)	28.46" (723 mm)	18.11" (460 mm)	6" (152 mm)	6" (152 mm)	AR6324	AS6323

# Heavy Duty Combination Dynamic Pre-Cleaner / Filters

AFCS SERIES



## Applications

Racor Combination Dynamic Pre-Cleaner / Air Filters are specifically designed to be connected to the air intake of gasoline and diesel engines. The advantages of the systems include their compact size and ease of installation. The three-stage air filtration systems are designed with only one connection to the engine.

Applications include:

- Agricultural machinery.
- Earth moving, construction & mining equipment.
- Stationary engines, generator sets.
- Trucks, pick-ups, off-road vehicles.
- Material handling equipment.
- Snow removal equipment & street sweepers.

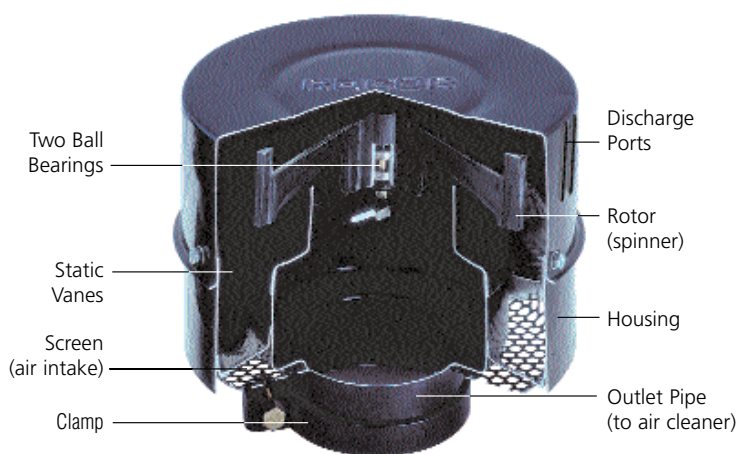
## Features and Benefits

- Pre-Cleaners remove up to 90% of impurities from intake air before the air enters the filter elements.
- Extends engine air filter life.
- Reduces down time.
- Prolongs engine and turbocharger life.
- Saves on fuel costs.
- Safety element is standard in most models.

MODEL	Airflow Range	Horsepower Range	Weight (With filter Elements)	Maximum Length	Maximum Diameter	Outlet Size	Primary Element	Safety Element
AFCS051	53 to 124 CFM (1.5 to 3.5 m <sup>3</sup> /min)	30 to 70 HP (22 to 52 KW)	8.60 lbs (3.90 kg)	15.04" (382 mm)	7.40" (188 mm)	2.5" (63 mm)	AR6322	–
AFCS071	124 to 159 CFM (3.5 to 4.5 m <sup>3</sup> /min)	50 to 70 HP (37 to 52 KW)	10.35 lbs (4.70 kg)	18.90" (480 mm)	7.40" (188 mm)	2.5" (63 mm)	AR6060	AS6121
AFCS081	159 to 212 CFM (4.5 to 6.0 m <sup>3</sup> /min)	70 to 80 HP (52 to 60 KW)	12.70 lbs (5.75 kg)	20.47" (520 mm)	8.03" (204 mm)	2.75" (70 mm)	AR6122	AS6123
AFCS121	212 to 282 CFM (6.0 to 8.0 m <sup>3</sup> /min)	80 to 110 HP (60 to 82 KW)	16.50 lbs (7.50 kg)	22.20" (564 mm)	9.05" (230 mm)	3" (76 mm)	AR6144	AS6180
AFCS181	282 to 423 CFM (8.0 to 12.0 m <sup>3</sup> /min)	110 to 150 HP (82 to 112 KW)	20.30 lbs (9.20 kg)	24.25" (616 mm)	9.96" (253 mm)	4" (102 mm)	AR6067	AS6159
AFCS221	423 to 529 CFM (12.0 to 15.0 m <sup>3</sup> /min)	150 to 180 HP (112 to 135 KW)	24.20 lbs (11.00 kg)	25.47" (647 mm)	11.34" (288 mm)	4" (102 mm)	AR234401	AS6182
AFCS251	529 to 706 CFM (15.0 to 20.0 m <sup>3</sup> /min)	180 to 240 HP (134 to 179 KW)	30.00 lbs (13.60 kg)	27.87" (708 mm)	13.27" (337 mm)	5.25" (133 mm)	AR6277	AS6316
AFCS261	706 to 741 CFM (20.0 to 21.0 m <sup>3</sup> /min)	200 to 260 HP (149 to 194 KW)	31.90 lbs (14.50 kg)	30.71" (780 mm)	13.27" (337 mm)	5.12" (130 mm)	AR246501	AS6220

## Heavy Duty On-Highway Pre-Cleaners

For Mobile Equipment Applications



### Applications:

Racor Engine Air Pre-Cleaners are designed to be mounted on or connected to the air filter intake of a gasoline or diesel engine air cleaner.

Applications include:

- All fast-moving mobile equipment such as trucks, buses and recreational vehicles.

### Features and Benefits

- Removes up to 80% of impurities from intake air before the air enters the filter elements.
- Compact, low-profile design.
- The bottom-intake air entry design eliminates the opportunity for water intrusion during high speed and stationary operation.
- Easy to install. Three plastic outlet reduction sleeves are provided with each assembly.

MODEL	Airflow Range	Horsepower Range	Weight	Maximum Height	Maximum Diameter	Outlet Size
AFHP31	53 to 124 CFM (1.5 to 3.5 m³/min)	30 to 60 HP (22 to 45 KW)	2.40 lbs (1.10 kg)	6.06" (154 mm)	7.00" (178 mm)	3-2.75-2.5" (76-70-63 mm)
AFHP41	124 to 247 CFM (3.5 to 7.0 m³/min)	60 to 120 HP (45 to 90 KW)	3.40 lbs (1.55 kg)	7.00" (178 mm)	8.50" (216 mm)	3.25-3-2.75-2.5" (82-76-70-63 mm)
AFHP42	124 to 247 CFM (3.5 to 7.0 m³/min)	60 to 120 HP (45 to 90 KW)	3.50 lbs (1.60 kg)	7.00" (178 mm)	8.50" (216 mm)	4-3.75-3.5-3.25" (102-95-89-82mm)
AFHP81	247 to 388 CFM (7.0 to 11.0 m³/min)	120 to 160 HP (90 to 120 KW)	4.20 lbs (1.90 kg)	8.07" (205 mm)	9.58" (243 mm)	3.25-3-2.75-2.5" (82-76-70-63 mm)
AFHP82	247 to 388 CFM (7.0 to 11.0 m³/min)	120 to 160 HP (90 to 120 KW)	4.30 lbs (1.95 kg)	8.07" (205 mm)	9.58" (243 mm)	4-3.75-3.5-3.25" (102-95-89-82 mm)
AFHP83	247 to 388 CFM (7.0 to 11.0 m³/min)	120 to 160 HP (90 to 120 KW)	4.40 lbs (2.00 kg)	8.07" (205 mm)	9.58" (243 mm)	4.5-4.33-4-3.75" (114-110-102-95 mm)
AFHP91	388 to 530 CFM (11.0 to 15.0 m³/min)	160 to 220 HP (120 to 165 KW)	5.20 lbs (2.35 kg)	8.15" (207 mm)	11.02" (280 mm)	4.5-4.33-4-3.75" (114-110-102-95 mm)
AFHP92	388 to 530 CFM (11.0 to 15.0 m³/min)	220 to 300 HP (165 to 225 KW)	5.50 lbs (2.50 kg)	8.15" (207 mm)	11.02" (280 mm)	5.25-5-4.75-4.5" (133-127-121-114 mm)
AFHP111	530 to 776 CFM (15.0 to 22.0 m³/min)	220 to 300 HP (165 to 225 KW)	6.50 lbs (2.95 kg)	7.87" (200 mm)	12.20" (310 mm)	5.25-5-4.75-4.5" (133-127-121-114 mm)
AFHP112	530 to 776 CFM (15.0 to 22.0 m³/min)	220 to 300 HP (165 to 225 KW)	6.60 lbs (3.00 kg)	7.87" (200 mm)	12.20" (310 mm)	6-5.5-5.25-5" (152-140-133-127 mm)
AFHP211	776 to 1059 CFM (21.0 to 30.0 m³/min)	300 to 400 HP (225 to 300 KW)	8.40 lbs (3.80 kg)	9.13" (232 mm)	14.17" (360 mm)	6-5.5-5.25-5" (152-140-133-127 mm)
AFHP212	776 to 1059 CFM (21.0 to 30.0 m³/min)	300 to 400 HP (225 to 300 KW)	8.80 lbs (4.00 kg)	9.13" (232 mm)	14.17" (360 mm)	7-6.75-6.5-6.25" (178-171-165-159 mm)



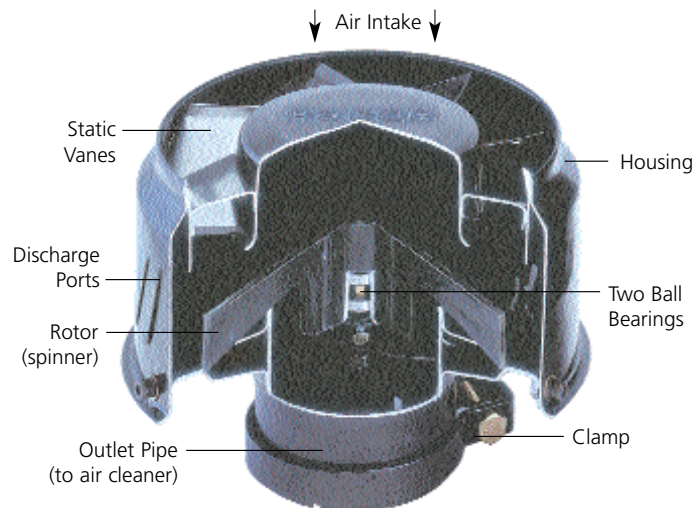
# On-Highway and Off-Highway Air Pre-Cleaners

For Under Hood Applications

## How they work

Racor Under Hood Engine Air Pre-Cleaners can be remote mounted or attached directly to the air cleaner eliminating the need for an external air intake.

- No exterior vehicle modification for intake air.
- High air flow, low differential design.



MODEL	Airflow Range	Horsepower Range	Weight	Maximum Height	Maximum Diameter	Outlet Size
AFUP006	53 to 141 CFM (1.5 to 4.0 m³/min)	30 to 60 HP (22 to 45 KW)	1.75 lbs (0.80 kg)	5.12" (130 mm)	5.59" (142 mm)	2.5" (I.D.) (63 mm)
AFUP006E	53 to 141 CFM (1.5 to 4.0 m³/min)	30 to 60 HP (22 to 45 KW)	2.40 lbs (1.10 kg)	5.71" (145 mm)	5.59" (142 mm)	2.5" (O.D.) (63 mm)
AFUP007	141 to 176 CFM (4.0 to 5.0 m³/min)	60 to 70 HP (45 to 52 KW)	2.86 lbs (1.30 kg)	6.18" (157 mm)	7.09" (180 mm)	3-2.75-2.5" (I.D.) (76-70-63 mm)
AFUP007E	141 to 176 CFM (4.0 to 5.0 m³/min)	60 to 70 HP (45 to 52 KW)	3.08 lbs (1.40 kg)	6.61" (168 mm)	7.09" (180 mm)	3" (O.D.) (76 mm)
AFUP021	176 to 282 CFM (5.0 to 8.0 m³/min)	70 to 100 HP (52 to 75 KW)	3.52 lbs (1.60 kg)	5.83" (148 mm)	7.87" (200 mm)	3.25-3-2.75-2.5" (I.D.) (82-76-70-63 mm)
AFUP021E	176 to 282 CFM (5.0 to 8.0 m³/min)	70 to 100 HP (52 to 75 KW)	4.07 lbs (1.85 kg)	6.69" (170 mm)	7.87" (200 mm)	3.25" (O.D.) (82 mm)
AFUP041	282 to 423 CFM (8.0 to 12.0 m³/min)	100 to 140 HP (75 to 104 KW)	4.30 lbs (1.95 kg)	7.32" (186 mm)	8.98" (228 mm)	4-3.75-3.5-3.25" (I.D.) (102-95-89-82 mm)
AFUP041E	282 to 423 CFM (8.0 to 12.0 m³/min)	100 to 140 HP (75 to 104 KW)	4.85 lbs (2.20 kg)	7.36" (187 mm)	8.98" (228 mm)	4" (O.D.) (102 mm)
AFUP061	423 to 635 CFM (12.0 to 18.0 m³/min)	140 to 200 HP (104 to 150 KW)	4.95 lbs (2.25 kg)	7.44" (189 mm)	9.45" (240 mm)	5.25-5-4.75-4.5" (I.D.) (133-127-121-114 mm)
AFUP061E	423 to 635 CFM (12.0 to 18.0 m³/min)	140 to 200 HP (104 to 150 KW)	5.70 lbs (2.60 kg)	7.95" (202 mm)	9.45" (240 mm)	5.25" (O.D.) (133 mm)
AFUP091	635 to 741 CFM (18.0 to 21.0 m³/min)	200 to 300 HP (149 to 224 KW)	6.60 lbs (3.00 kg)	8.03" (204 mm)	11.02" (280 mm)	5.25-5-4.75-4.5" (I.D.) (133-127-121-114 mm)
AFUP091E	635 to 741 CFM (18.0 to 21.0 m³/min)	200 to 300 HP (149 to 224 KW)	7.71 lbs (3.50 kg)	8.98" (228 mm)	11.02" (280 mm)	5.25" (O.D.) (133 mm)
AFUP131	741 to 988 CFM (21.0 to 28.0 m³/min)	300 to 350 HP (224 to 261 KW)	7.25 lbs (3.30 kg)	10.08" (256 mm)	13.03" (331 mm)	6-5.5-5-4.75-4.5" (I.D.) (152-140-133-127 mm)

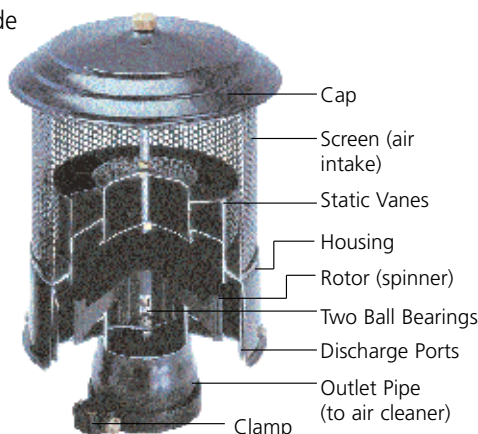
# Heavy Duty Off-Highway and Industrial Air Pre-Cleaners

For Agriculture, Construction and Stationary Applications

## Applications

Racor Engine Air Pre-Cleaners are designed to be mounted on or connected to the air filter intake of a gasoline or diesel engine air cleaner.

Their applications include all slow-moving and industrial equipment such as agricultural machinery; earth moving, construction and mining equipment; pumping plants; generator sets; material handling equipment; snow removal equipment and street sweepers.



Models  
AFAP414 to AFAP401

## How they work

Racor Engine Air Pre-Cleaners are usually installed in place of the rain cap, dust bowl, or aspirated pre-cleaner (exhaust system). In some applications, they can be mounted directly to the air cleaner.

Air enters the system through a pre-screen that removes large debris. It then flows through static vanes causing the air to spin. As the air spins, centrifugal force separates dust, dirt, insects, rain and snow from the air stream. The swirling air drives a high velocity rotor that acts as a blower evacuating contaminants through special discharge ports at the bottom or in the side of the unit. Only purified air flows to the air filter elements.

MODEL	Airflow Range	Horsepower Range	Weight	Maximum Height	Maximum Diameter	Outlet Size
<b>AFAP083</b>	53 to 124 CFM (1.5 to 3.5 m³/min)	30 to 60 HP (22 to 45 KW)	3.40 lbs (1.55 kg)	7.68" (195 mm)	7.40" (188 mm)	3-2.75-2.5" (76-70-63 mm)
<b>AFAP414</b>	124 to 247 CFM (3.5 to 7.0 m³/min)	60 to 120 HP (45 to 90 KW)	5.80 lbs (2.65 kg)	12.80" (325 mm)	8.70" (221 mm)	3.25-3-2.75-2.5" (82-76-70-63 mm)
<b>AFAP415</b>	124 to 247 CFM (3.5 to 7.0 m³/min)	60 to 120 HP (45 to 90 KW)	6.30 lbs (2.85 kg)	13.70" (348 mm)	8.70" (221 mm)	4-3.75-3.5-3.25" (102-95-89-82 mm)
<b>AFAP818</b>	247 to 388 CFM (7.0 to 11.0 m³/min)	120 to 160 HP (90 to 120 KW)	7.70 lbs (3.50 kg)	13.46" (342 mm)	10.67" (271 mm)	3.25-3-2.75-2.5" (82-76-70-63 mm)
<b>AFAP819</b>	247 to 388 CFM (7.0 to 11.0 m³/min)	120 to 160 HP (90 to 120 KW)	7.80 lbs (3.55 kg)	13.98" (355 mm)	10.67" (271 mm)	4-3.75-3.5-3.25" (102-95-89-82 mm)
<b>AFAP820</b>	247 to 388 CFM (7.0 to 11.0 m³/min)	120 to 160 HP (90 to 120 KW)	8.15 lbs (3.70 kg)	13.86" (352 mm)	10.67" (271 mm)	4.5-4.33-4-3.75" (114-110-102-95 mm)
<b>AFAP919</b>	388 to 530 CFM (11.0 to 15.0 m³/min)	160 to 220 HP (120 to 165 KW)	9.70 lbs (4.40 kg)	14.25" (362 mm)	12.44" (316 mm)	4.5-4.33-4-3.75" (114-110-102-95 mm)
<b>AFAP920</b>	388 to 530 CFM (11.0 to 15.0 m³/min)	160 to 220 HP (120 to 165 KW)	10.10 lbs (4.60 kg)	14.60" (371 mm)	12.44" (316 mm)	5.25-5-4.75-4.5" (133-127-121-114 mm)
<b>AFAP183</b>	530 to 776 CFM (15.0 to 22.0 m³/min)	220 to 300 HP (165 to 225 KW)	12.70 lbs (5.75 kg)	16.14" (410 mm)	13.86" (352 mm)	5.25-5-4.75-4.5" (133-127-121-114 mm)
<b>AFAP184</b>	530 to 776 CFM (15.0 to 22.0 m³/min)	220 to 300 HP (165 to 225 KW)	12.80 lbs (5.80 kg)	15.94" (405 mm)	13.86" (352 mm)	6-5.5-5.25-5" (152-140-133-127 mm)
<b>AFAP400</b>	776 to 1059 CFM (22.0 to 30.0 m³/min)	300 to 400 HP (225 to 300 KW)	16.50 lbs (7.50 kg)	18.50" (470 mm)	16.57" (421 mm)	6-5.50-5.25-5" (152-140-133-127 mm)
<b>AFAP401</b>	776 to 1059 CFM (22.0 to 30.0 m³/min)	300 to 400 HP (225 to 300 KW)	16.10 lbs (7.30 kg)	18.11" (460 mm)	16.57" (421 mm)	7-6.75-6.5-6.25" (178-171-165-159 mm)

## Marine Air Filter / Silencers

- Reduces noise up to 10 dba
- Can integrate Racor CCV systems
- Corrosion resistant
- Cleanable air filter
- No tools needed for serving
- Compact design



### Marine Air Filter Assembly

In order to determine the correct marine air filter application, you will need to know the marine air filter rating (AFR). You will need to provide the hose connection to turbo. Choose the correct marine air filter application per the following guideline:

Verify that the marine air filter dimensions will fit into your engine room.

4 cycle engines:  $AFR = HP \times 2.0$     2 cycle engines:  $AFR = HP \times 2.5$

Note: If AFR is close to maximum capacity of the marine air filter as listed below, use the next size larger.

Example: DDC 12V92TA DDEC (2 cycle – twin turbo):

$826 \text{ hp} \times 2.5 = 1032.5 \text{ AFR per turbo} = (2) \text{ AF M501012}$

$1110 \text{ hp} \times 2.5 = 1387.5 \text{ AFR per turbo} = (2) \text{ AF M601212}$

CAT 3196 (4 cycle - twin turbo):

$660 \text{ hp} \times 2.0 = 1320.0 \text{ AFR} = (1) \text{ AF M601212}$

In addition, note the dimensions of the marine air filter outlets and the Racor CCV connector barb outside diameter from the chart in the Marine Air Filter Kit installation Section to ensure the correct installation for your engine. However, the marine air filters typically correspond with the following CCV Models (see chart on right).



	AF M408512	AF M501012	AF M601212
Max. Air Flow*	800 cfm / 377.6 l/s	1200 cfm / 566.4 l/s	1600 cfm / 755.2 l/s
Outlet Diameter	4.00" / 101.6 mm	5.00" / 127.0 mm	6.00" / 152.4 mm
Filter Element	AF M8040	AF M8050	AF M8060
Length	12.50" / 317.5 mm	12.50" / 317.5 mm	12.50" / 317.5 mm
Depth	9.59" / 243.5 mm	11.14" / 282.8 mm	13.51" / 343.2 mm
Hose Barb size	1.00" / 25.4 mm	1.25" / 25.4 mm	1.25" / 31.75 mm
Weight	4.16 lbs / 1.89 kgs	5.03 lbs / 2.28 kgs	8.00 lbs / 3.63 kgs
CCV hose barb	1" OD	1 1/4" OD	1 1/4" OD
Operating Temperature	-40° / +240° F / -40° / +116° C		

Values given are cubic feet per minute (cfm) and liters per second (l/s).

The engine crankcase breather is connected to the inlet of the Racor CCV assembly. The CCV outlet is connected to the engine's combustion air inlet via an air intake connector where filtered blow-by gas is recycled through the combustion process. Oil collected in the CCV sump is returned to the crankcase through a hose and a drain check valve.

The Racor marine air filter/silencer removes contaminants introduced into the air from both outside and inside the vessel. Sand, salt, carpet fibers and other contaminants are trapped in the oil-impregnated filter media. Turbo noise is reduced by the unique design of the air filter/silencer housing. An integral hose connection on the housing routes the clean blow-by from the CCV back into the engine.

Marine Air Filter	CCV Model
AF M408512	CCV4500
AF M501012	CCV6000
AF M601212	CCV8000



Marine Air Filter/Silencer (AF) System



AF Range compatible with CCV applications.



# 4.0

# Trykkluft og gassfiltrering

4.1	Pneumatic	5
4.2	Regulator	39
4.3	Veivhusfilter	83



## Trykkluft filtrering



Trykkluft og gasser representerer en høy andel av energiforbruket i moderne industri. De er generelt anvendt som energi i pneumatiske systemer, men er også anvendt i transport containere, kjøling og oppvarming. For å oppnå en optimal drift av slike systemer trenger man utstyr av høy kvalitet og en nær oppmerksomhet fra operatøren. Trykkluft inneholder tørrstoff, tærende gasser, olje aerosol, virus, bakterier og fuktighet. Hvis dette ikke blir fjernet eller kontrollert, kan disse artikkelene redusere levetiden til systemet dramatisk. Typisk anvendelses områder:

- **Drift og kontroll**
- **Kjøling**
- **Rensing**
- **Kraft verktøy**
- **Transport**
- **Pusteluft**



### Fortetnings trykkluft filter

Fjerner 99.99 % olje, vann og tørrstoff fra trykkluft og andre gasser. Tilbyr en rask tilbakebetaling ved å eliminere kostnader tilknyttet drifts stans, vedlikehold og avviste produkter. Ekstrem lang filterinnsats levetid. Lavt trykkfall. Service flow rangeres fra et par standard kubikk fot til 40,000. Komplette størrelse strekker seg fra 1/4" til 10" tilslutning. Sendes komplett, klar til installasjon med filterinnsats, automatisk drenering, og differensial trykk indikator.



#### Hvordan fungerer koalescer?

Det avbildet filterhuset illustrerer koalescer prosessen. Luft går gjennom huset og strømmer gjennom filter mediet, strømmen er fra innsiden av elementets flate til utsiden. Koalescer væske, vann i olje, samles i en bolle hvor det blir drenert og ren luft kommer ut fra huset gjennom avløpstilslutning. Partikulære forurensninger blir fanget opp og holdt igjen i mediet.

## Gas Filtration

Within many industries more and more Nitrogen is used in production and transport.

This is a non-hazardous gas which with correct equipment can be produced directly from the air around us.

Usually a nitrogen generator with membrane technology will do this.



## Membrane Nitrogen Generators

Minimal maintenance required

No electricity required

Payback period from 6 months to 2 years

LC/MS grade purity enhances instrument performance

Recommended, certified, and used by all major LC/MS instrument manufacturers

Applications include: LC/MS, Solvent Evaporation, and Analytical Instruments requiring nitrogen

Parker Balston Membrane Nitrogen Generators are designed to supply single or multiple LC/MS instruments with dry nitrogen at purities of 99% to 99.5%. The generator can also be used for solvent evaporation as well as supplying dry nitrogen to analytical instruments.

Installation requires a minimum of 60 psig of compressed air to a 1/4" or 1/2" inlet connection. The outlet nitrogen supply is then directed to your analytical instruments. No electrical connections are required and the only maintenance is to change prefilters periodically. The nitrogen generators are also available with purity monitors.







# 4.1

# Pneumatic



## Petrol Vehicle Emission Analysers

### Features

**Complete removal of solid particles,  
condensed water and oils**

**Long filter life even in high use conditions**

**No effect by the filter on the composition of  
the sample gas**

**Complete resistance to corrosion**

### Type 58N

The Type 58N housing is a rugged, economical housing. The materials are resistant and non-absorbent to all components of the sample stream. The Grade 404 microfibre filter cartridges were developed specifically for use in sample lines to petrol engine analysers. The filter cartridges are composed of borosilicate glass and polyolefine fibres. They have 93% retention efficiency at 0.1 micron and have high dirt holding capacity and low pressure drop. The Balston Grade 404 filter cartridges are hydrophobic and drain water rapidly greatly reducing the possibility of loss of NO<sub>2</sub> and other water-soluble components from the gas sample. When installed with inside-to-outside flow direction, the Grade 404 filter cartridges are efficient, fast-draining coalescing filters. When installed with outside-to-inside flow direction, the pure white surface of the filter tube permits quick visual estimation of life.



TYPE 58N



TYPE ETF

### Type ETF

The Type ETF housing is a low-pressure filter designed for vehicle emissions, analyser protection. The all plastic body is in two parts; the head is fixed in the line and the bowl complete with fitted cartridge is self contained and replaceable. Typically a grade 8G element is fitted which can be used as a coalescer to remove liquids or for fine particulate removal. For other grades consult Parker.

### Principal Specifications

Type	Type 58N	Type ETF
<b>Inlet and Outlet Ports</b>	1/4" NPT	1/4" NPT
<b>Drain Port</b>	1/8" NPT	8mm
<b>Materials of Construction</b>		
<b>Head</b>	Nylon	Glass filled polypropylene
<b>Bowl</b>	Polycarbonate	Polypropylene
<b>Internals</b>	Nylon	
<b>Seals</b>	Buna	Buna
<b>Maximum Temperature</b>	66°C	52°C
<b>Maximum Pressure</b>	0.7 barg	0.7 barg
<b>Shipping Weight</b>	0.5kg	0.5kg
<b>Dimensions</b>	70mm x 160mm	70mm x 122mm

**Note:** Filter cartridge not included - must be ordered separately for 58N.

### Ordering Information

Type 58N	
<b>Replacement Filter Cartridges (box of 10)</b>	100-12-404
Type ETF	
<b>Complete Assembly</b>	ETF-8G
<b>Replacement Bowl Complete with cartridge.</b>	RBA-8G
<b>Replacement Head</b>	ETF x 1



# Filter Housing HD High Pressure

The HD high pressure filter housings are designed for the purification of compressed air and gases. Due to the modular design of the housings different filter elements can be used.

## Product description:

HD high pressure housings are designed for the purification of compressed air and gases in an industrial operation. The housings made out of two parts offer, due to an optimized construction, low differential pressures at high flow rates. A multitude of housings with different connections, allow to match the requirements of the application, e. g. the compressor size.

In this product series are 8 different housings available ranging from a volume flow of 30 m³/h to 720 m³/h, in the pressure stages PN 25 to PN 400 (related to 7 bar (g) and 20°C).

The HD high pressure housings conforms to the requirements of the European directive 97/23/EC for pressure vessels.



## Technical Data

Materials:	
Filter housing:	
PN25 - PN64	Aluminium EN AW 5754
PN100 - PN400	Steel C 22.8 Stainless steel on request
Sealing:	O-ring, Parting compound free, made of Perbunan

Maximum operating temperature:
-10°C / +80°C

Surface finish:	
PN25 - PN64	Aluminium anodized
PN100 - PN400	Carbon Steel electroless nickel

Pressure stages:	
PN25 PN40 PN64	PN100 PN250 PN400

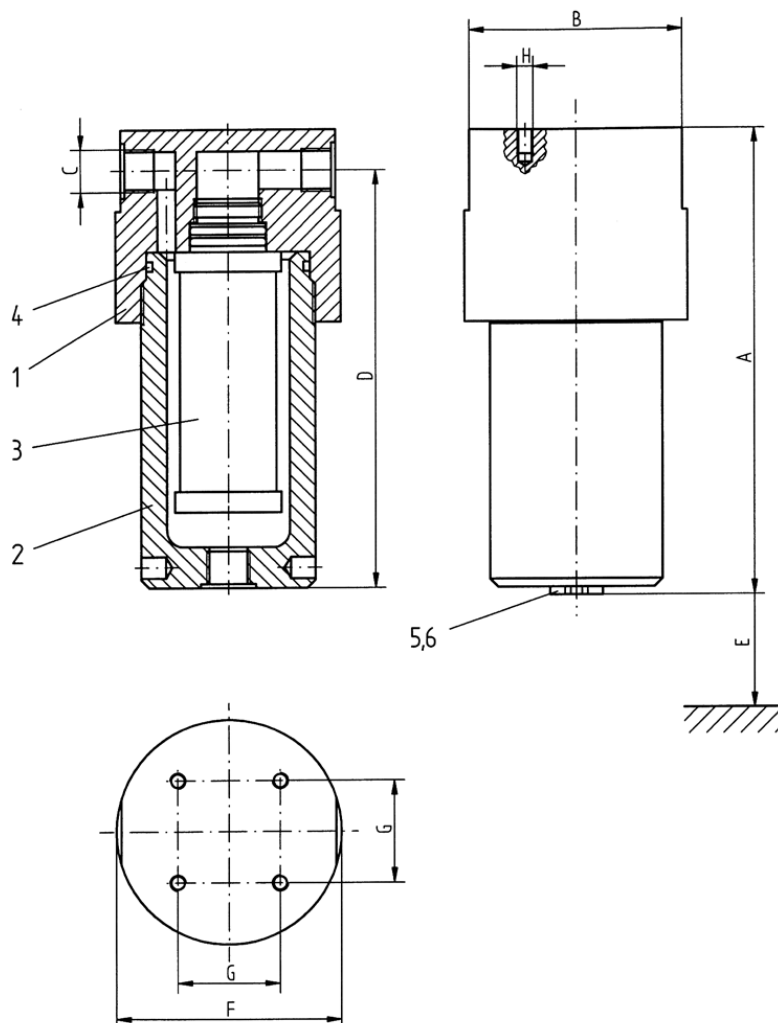
Connection:
1/4" bis 2" BSP

## Industrial filter HD 0003 - 0072, 25-64 bar

Pos.	Piece	Benennung
6	1	sealing
5	1	screw plug
4	1	housing O-ring
3	1	filter element
2	1	lower housing bowl
1	1	upper housing bowl

Max. operating pressure:	25 bar, 40 bar 64 bar
Test pressure:	36 bar, 57.2 bar 92 bar
Max. operating temperature:	-10°C / +80°C
Material:	EN AW 5754
Paint coat:	anodized

Classification acc. 97 / 23 / EG for fluids group 2	
HD 0003 - 0036 HD 0048 25 bar	Art. 3, par. 3
HD 0048 40-64 bar HD 0072 25-64 bar	Cat. I



Housing size	Volume (l)	Weight* (kg)	A mm	B mm	C	D mm	E mm	F mm	G mm	H	Element size
0003	0.20	1.6	165	85	G 1/4	145	130	90	50	4xM8	03/05
0006	0.20	1.6	165	85	G 3/8	145	130	90	50	4xM8	03/10
0012	0.42	2.6	205	105	G 1/2	185	190	110	50	4xM8	04/20
0018	0.49	2.8	230	105	G 3/4	205	190	110	50	4xM8	05/20
0027	0.66	4.3	235	119	G 1	210	190	130	70	4xM10	05/25
0036	0.90	4.6	290	119	G 1 1/4	255	250	130	70	4xM10	07/25
0048	1.72	7.4	315	150	G 1 1/2	280	250	160	80	4xM10	07/30
0072	3.02	18.9	405	186	G 2	365	340	200	110	4xM12	10/30

\* without filter element

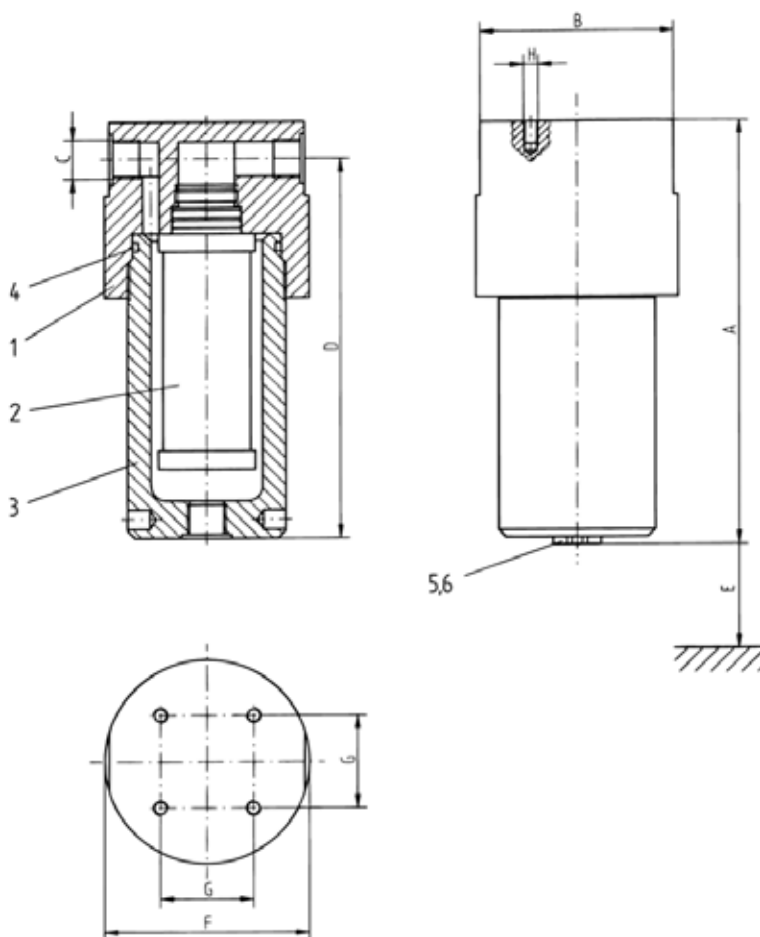


# Industrial filter HD 0003 - 0072, 100-400 bar

Pos.	Piece	Benennung
6	1	sealing
5	1	screw plug
4	1	housing O-ring
3	1	filter element
2	1	lower housing bowl
1	1	upper housing bowl

Max. operating overpressure:	100 bar, 250 bar 400 bar
Test pressure:	143 bar, 357.5 bar 572 bar
Max. operating temperature:	-10°C / +80°C
Material:	C22.8 with 3.1B certificate acc. to EN 10204
Paint coat:	electroless nickel

Classification acc. to 97 / 23 / EC for fluids group 2	
HD 0003 - 0036	Art. 3, par. 3
HD 0048 100 bar	Cat. I
HD 0048 250-400 bar HD 0072 100-250 bar	Cat. II
HD 0072 400 bar	Cat. III



Housing size	Volume (l)	Weight* (kg)	A mm	B mm	C	D mm	E mm	F mm	G mm	H	Element size
0003	0.20	5	170	85	G 1/4	150	130	90	50	4xM8	03/05
0006	0.20	5	170	85	G 3/8	150	130	90	50	4xM8	03/10
0012	0.42	9	210	105	G 1/2	190	190	110	50	4xM8	04/20
0018	0.49	9.5	235	105	G 3/4	215	190	110	50	4xM8	05/20
0027	0.66	14.5	250	119	G 1	220	190	130	70	4xM10	05/25
0036	0.90	16	305	119	G 1 1/4	270	250	130	70	4xM10	07/25
0048	1.72	27.5	330	150	1 1/2	295	250	160	80	4xM10	07/30
0072	3.02	60	420	186	G 2	380	340	200	110	4xM12	10/30

\* without filter element



# Mellomtrykk Filter 50 bar

## OIL-X 50 SERIE

### Bruksområder

PET formblåsing av flasker  
Lufttrykksbrytere  
Trykkluftsystem på skip  
Trykkluft startbrytere  
Trykktesting av rørnett

### Problemet

Fjerningen av urenheter i et trykkluftsystem er ytterst viktig for å hindre forurensning av nedstrøms prosesser og produkter.

### Løsningen

domnick hunter OIL-X 50 Serie mellomtrykkfiltre kombinerer de velprøvde OIL-Xplus filterelementer med spesielt utformede hus, for å gi høy effektivitetsfiltrering for anvendelser opp til 50 bar g (725 psi g) Tilgjengelig i forskjellig filtreringsgrader og tilslutninger, gir de et nivå av beskyttelse som er skreddersydd for din anvendelse.

### Fordeler

- **Eliminering av olje, vann og skitt**  
tilgjengelig i fem filtreringsgrader
- **Skreddersydd løsning for alle anvendelser**  
Syv tilslutning størrelser 1/4 " - 2" med kapasitet opp til 965 L/s
- **Lite vedlikehold**  
korrosjonsbeskyttet hus med 10 års garanti
- **Enkel installasjon**  
kompakt konstruksjon
- **Problemfri, høyeffektiv**  
OIL-Xplus kvalitetselement med et års garanti



### Alternativ

- **NPT tilslutning**
- **Sett for sammenkobling av inntil 3 filter**

### GRAD WS

#### Høyeffektiv Vannseparator

For fjerning av store mengder væske forurensning.

### GRAD AO

#### Høyeffektivt Forfilter

For fjerning av partikler ned til 1 mikron samt koalisert vann og olje, noe som gir et maksimalt restinnhold av olje aerosoler på 0.5 mg/m<sup>3</sup> (0.5 ppm) @ 21°C (70°F).

### GRAD AA

#### Høyeffektivt Finfilter

For fjerning av partikler ned til 0,01 mikron samt koalisert vann og olje, noe som gir et maksimalt restinnhold av olje aerosoler på 0.01 mg/m<sup>3</sup> (0.01 ppm) @ 21°C (70°F). (Forfilterer med grad AO

### GRADE ACS

#### Aktiv Kull Filtrering

For fjerning av oljedamp og hydrokarbon lukt, noe som gir et maksimalt restinnhold av olje aerosoler mindre enn <0.003 mg/m<sup>3</sup> (<0.003 ppm) (ikke metan) @ 21°C (70°F). (Forfilterer grad ACS med grad AA filter).

### GRAD AR

#### Generell Støvfilterering

For fjerning av støv partikler ned til 1 mikron

## Tekniske Data

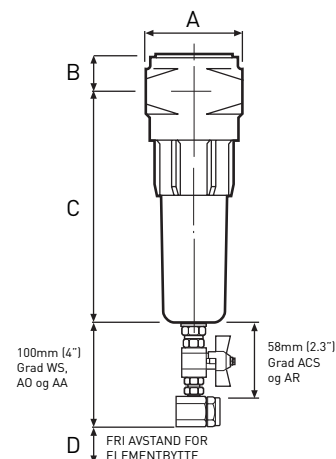
Maksimalt driftstrykk	50 bar g (725 psi g)	Første differansetrykk "tørt"	Grade WS N/A
Maksimalt anbefalt driftstemperatur (Grad WS/AO/AA/AR)	66°C (150°F)	Grad AO/AR	~70 m bar (1.0psi)
Maksimalt anbefalt driftstemperatur (Grad ACS)	30°C (86°F)	Grad AA	~100 m bar (1.5psi)
		Grad ACS	~70 m bar (1.0psi)
Minimum anbefalt driftstemperatur	1.5°C (35°F)	<b>*Anbefalt filter element bytte:-</b> 12 måneder eller 6000 timer* (avhengig av hva som kommer først) driftstemperatur *Gjelder ikke for AC elementer. AC elementer bør skiftes etter 1000 driftstimer ved 21°C (70°F) eller tidligere ved vondt lukt / smak .	

## Filtermodeller & Dimensjoner

Modell nr.	Tilslu. Inn/Ut	Kapasitet @ 50 bar g (725 psi g)			Dimensjoner i mm				Ca vekt kg	Erstatnings element kode
		L/s	cfm	m <sup>3</sup> /t	A	B	C	D		
IP50 - (Grad)-0030G	1/4"	30	64	108	78	33	142	70	1.3	K009 (grad)
IP50 - (Grad)-0045G	3/8"	45	95	162	78	33	142	70	1.3	K009 (grad)
IP50 - (Grad)-0095G	1/2"	95	201	342	89	40.5	205	130	2.0	K030 (grad)
IP50 - (Grad)-0145G	3/4"	145	307	522	89	40.5	205	130	2.0	K030 (grad)
IP50 - (Grad)-0285G	1"	285	604	1026	122	58.5	365	272	5.0	K145 (grad)
IP50 - (Grad)-0465G	1 1/2"	465	985	1674	122	58	365	272	5.0	K145 (grad)
IP50 - (Grad)-0965G	2"	965	2044	3473	170	62	418	320	10.0	K220 (grad)

Bruk korreksjonsfaktor under for kapasiteter ved andre arbeidstrykk:

Arbeidstrykk	bar g	20	25	30	35	40	45	50
	psi g	290	362	435	507	580	652	725
Korreksjonsfaktor		0.63	0.71	0.78	0.84	0.90	0.95	1.00



# Ultra-Filter DF 0035 - DF 1100

Filter with Econometer/ Economizer and pneumatic/ electronic drain resp. plug for application of different element types for the industrial processing of compressed air and gases.

## Product description:

The filters Ultra-Filter DF are intended for the processing of compressed air or other gases in different areas of applications.

The intelligent overall concept of the filter unites the following characteristics:

- high performance
- efficiency
- compactness
- easy of use
- flexibility
- safety

Validated performance data acc. to ISO 12500-1 for reliable achievement of compressed air quality suitable to the application acc. to ISO 8573-1.

Besides energy cost savings by the filter design, the use of the Economizer offers further saving achievements through timely replacement of the used filter elements. The most cost-effective replacement time for the filter element is calculated and LEDs then signal that the "filter exchange" is necessary.

With 9 sizes the Ultra-Filter covers the performance range from 35 to 1100 m³/h flow rate and hence conventional compressor capacities between 2 and 120 KW.



Filter combination with adapter



Version Superplus

Three versions are available:

### Standard

(type with float condensate drain and Econometer / with element A with plug, without Economizer).

### Plus

(float condensate drain and Economizer / with element A with plug and Economizer).

### Superplus

(level-controlled condensate drain UFM-T and Economizer).

A selection of appropriate filter grades by filter element types **S, M, V, B, P, A** ensure that the right product for the filtration task is always available to the user.

The filter housing design allows an easy replacement of the filter element. The filter bowl is rotated slightly via a bayonet lock and can be removed together with the filter element. For this a installation height of only a few centimetres of ground clearance is necessary.

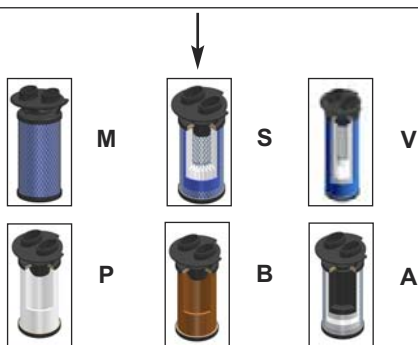
## Ultra-Filter DF 0035 - DF 1100

### Technical Data

Features:	Benefits:
Validated performance data acc. to ISO 12500-1	Reliable achievement of compressed air quality acc. to ISO 8573-1
Intelligent overall concept	Flow range, filtration grades, efficiencies and available options perfectly meet requirements of industrial air purification
Flow-optimised filter housing and filter element design	Low pressure losses, thereby saving of energy costs
Bayonet fixing between filter head and filter bowl; element can be removed together with filter bowl; filter head with integrated differential pressure indicator can be rotated	Easy to use construction - simplified filter replacement; simple installation and assembly
Little installation height for the filter element exchange, differential pressure indicator integrated in filter head	Compact, space-saving construction - installation within smallest space possible
Changing the coding clip inside the filter cover allows the filter element to be rotated and thus change the flow direction	High flexibility - filters can be either used as coalescence filters or particulate filters
Filter cannot be opened under pressure due to bayonet lock	High safety during operation
Filter housings immersion-laquererd on the inside and outside surface	Ensures long-term corrosion protection, in particular against aggressive condensates

Options:	
Econometer	Mechanical differential pressure indicator
Economizer	Differential pressure indicator for the determination of the most economical time for replacement of the filter element; Possibility of remote data transmission
KA ½ / UFM-P	Float drain, pneumatically
UFM-T	Electronic level-controlled condensate drain without compressed air losses
UFZ	Time-controlled condensate drain
S	Plug
Wall bracket	Distance to the wall gradelessly adjustable (except DF-0035)
Connection adapter	Intelligent adapter solution for filter combination
Filter elements	V / M / S (coalescence filter) P / B (Pre-filter / particulate filter) A (activated carbon filter)

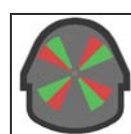
### Ultra-Filter DF - S 0035 Z U



0035  
0070  
0120  
0210  
0320  
0450  
0600  
0750  
1100



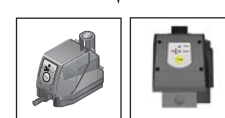
Z = Economizer



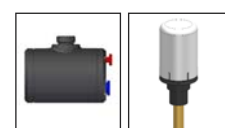
M = Econometer



P = Plate



U = UFM-T05 SP / T1



K = UFM-P / KA 1/2



T = UFZ



S = Plug

P-filter Particle filter	Initial differential pressure : 0,15 bar 1 Efficiency : 100% related to 25 µm
B-filter Particulate filter	Initial differential pressure : 0,12 bar 1 Efficiency : 100% related to 25 µm
A-filter Activated carbon filter	Initial differential pressure : 0,15 bar 1 Residual oil content : 0,003 mg/m³ 3
V-filter Coalescence filter	Initial differential pressure : 0,11 bar 1 Residual oil content : < 0,2 mg/m³ 2
M-filter Coalescence filter	Initial differential pressure : 0,11 bar 1 Residual oil content : < 0,02 mg/m³ 2
S-filter Coalescence filter	Initial differential pressure : 0,13 bar 1 Residual oil content : < 0,01 mg/m³ 2

1 related to nominal performance at 7 bar, dry condition

2 related to a inlet concentration of 3 mg/m³

3 when upstream connected a M- or S-filter

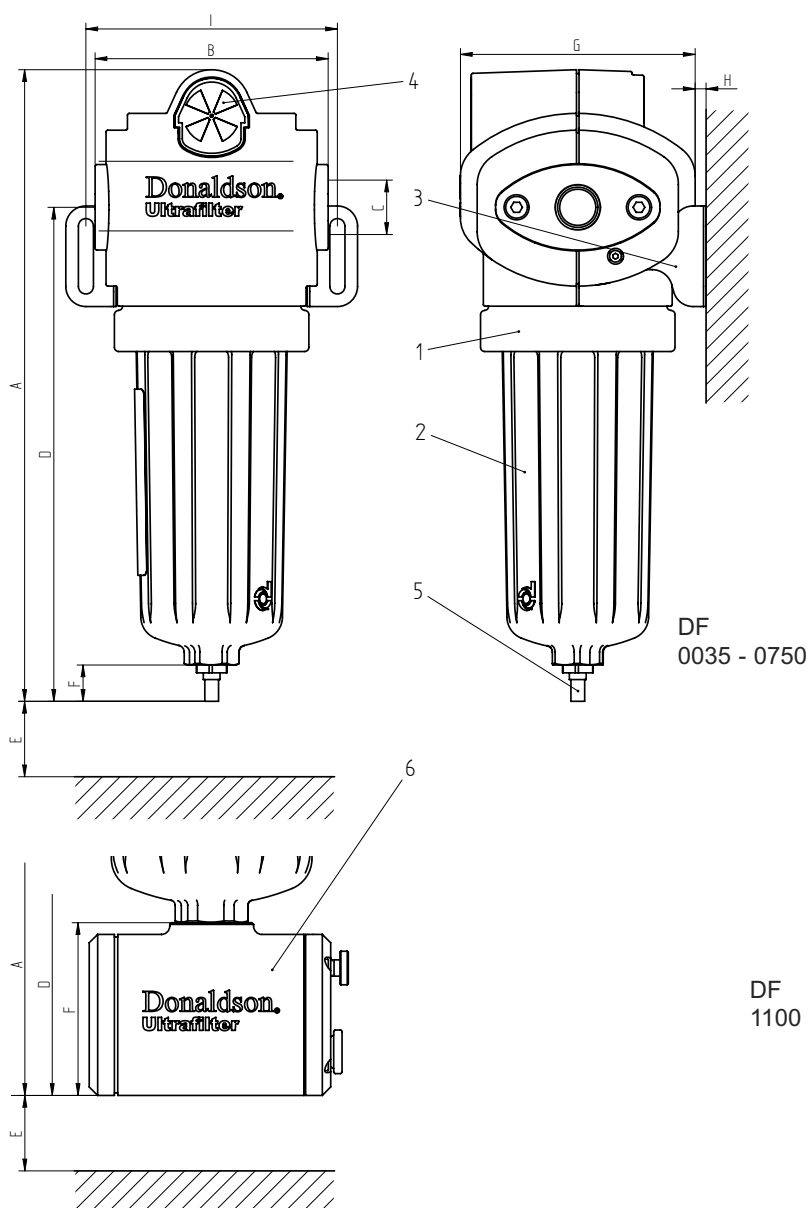
# Ultra-Filter Standard (DF 0035 MK - DF 1100 MK)

Pos.	Pcs.	Description
1	1	Filter head
2	1	Lower housing bowl
3	2	Wall bracket (option)
4	1	Econometer
5 DF 0035 - DF 0750	1	Internal automatic drain KA 1/2
6 DF 1100	1	External automatic drain UFM-P

Materials	
Filter housing	Aluminium die cast
Econometer	Polymer
Float drain	Polymer / aluminium mold cast
Sealings	Viton

Max. operating pressure	16 bar
Test pressure	22.9 bar
Perm. operating temperature	+1°C / +65°C

Classification acc. to 97 / 23 / EG for fluids group 2	
DF 0035 - DF 0320	Art. 3, par. 3
DF 0450 - DF 1100	Cat. I



Size housing/ element	Flow rate* m³/h	Volume (l)	Weight** (kg)	A mm	B mm	C	D mm	E mm	F mm	G mm	H min./ max. mm	I mm
0035	35	0.20	0.5	254	76	G ¼	186	100	27	85	5	84
0070	70	0.40	0.9	297	103	G ⅜	222	115	27	107	5 / 34	107
0120	120	0.50	1.0	341	103	G ½	266	150	27	107	5 / 34	107
0210	210	1.15	2.0	382	139	G ¾	300	180	27	140	5 / 53	150
0320	320	1.50	2.2	442	139	G 1	360	250	27	140	5 / 53	150
0450	450	5	5.2	586	190	G 1¼	487	250	27	203	5 / 73	190
0600	600	5	5.2	586	190	G 1½	487	250	27	203	5 / 73	190
0750	750	5	5.2	586	190	G 2	487	250	27	203	5 / 73	190
1100	1100	6	7.2	764	190	G 2	665	250	103	203	5 / 73	190

\* Nominal flow at 7 bar g, m³/h related to 1 bar abs. and 20°C

\*\* without filter element



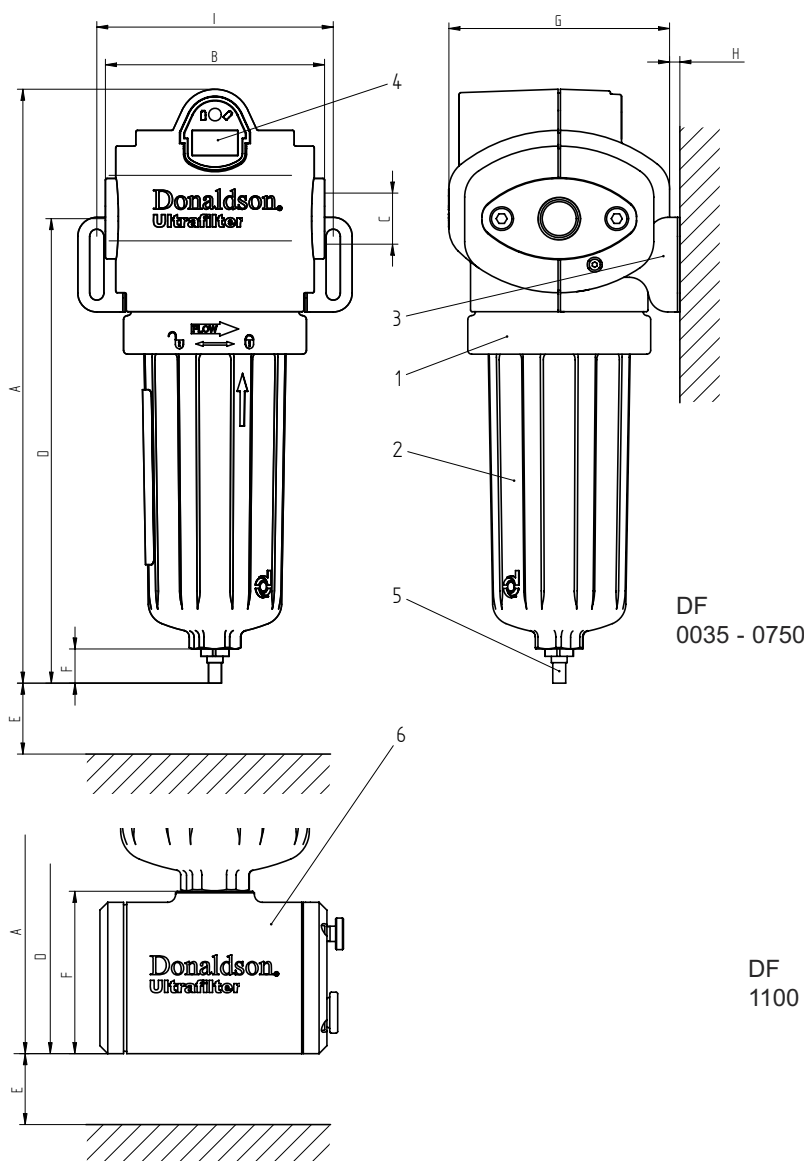
# Ultra-Filter Plus (DF 0035 ZK - DF 1100 ZK)

Pos.	Pcs.	Description
1	1	Filter head
2	1	Lower housing bowl
3	2	Wall bracket (option)
4	1	Economizer
5 DF 0035 - DF 0750	1	Internal automatic drain KA 1/2
6 DF 1100	1	External automatic drain UFM-P

Materials	
Filter housing	Aluminium die cast
Economizer	Polymer
Float drain	Polymer / aluminium mold cast
Sealings	Viton

Max. operating pressure	16 bar
Test pressure	22.9 bar
Perm. operating temperature	+1°C / +65°C

Classification acc. to 97 / 23 / EG for fluids group 2	
DF 0035 - DF 0320	Art. 3, par. 3
DF 0450 - DF 1100	Cat. I



Size housing/ element	Flow rate* m³/h	Volume (l)	Weight** (kg)	A mm	B mm	C	D mm	E mm	F mm	G mm	H min./ max. mm	I mm
0035	0035	0.20	0.5	254	76	G 1/4	186	100	27	85	5	84
0070	0070	0.40	0.9	297	103	G 3/8	222	115	27	107	5 / 34	107
0120	0120	0.50	1.0	341	103	G 1/2	266	150	27	107	5 / 34	107
0210	0210	1.15	2.0	382	139	G 3/4	300	180	27	140	5 / 53	150
0320	0320	1.50	2.2	442	139	G 1	360	250	27	140	5 / 53	150
0450	0450	5	5.2	586	190	G 1 1/4	487	250	27	203	5 / 73	190
0600	0600	5	5.2	586	190	G 1 1/2	487	250	27	203	5 / 73	190
0750	0750	5	5.2	586	190	G 2	487	250	27	203	5 / 73	190
1100	1100	6	7.2	764	190	G 2	665	250	103	203	5 / 73	190

\* Nominal flow at 7 bar g, m³/h related to 1 bar abs. and 20°C

\*\* without filter element

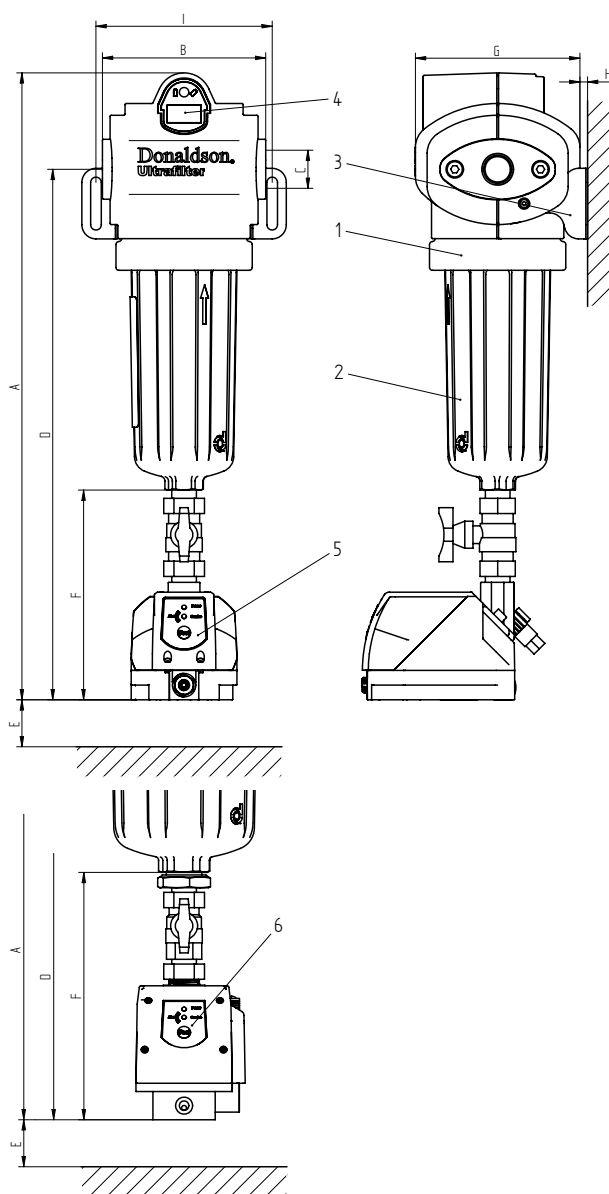
# Ultra-Filter Superplus (DF 0035 ZU - DF 1100 ZU)

Pos.	Pcs.	Description
1	1	Filter head
2	1	Lower housing bowl
3	2	Wall bracket (option)
4	1	Economizer
5 DF 0035 - DF 0450	1	Condensate drain UFM-T05
6 DF 0600 - DF 1100	1	Condensate drain UFM-T1

Materials	
Filter housing	Aluminium die cast
Economizer	Polymer
Float drain	Aluminium, glass fibre reinforced polymer
Sealings	Viton

Max. operating pressure	16 bar
Test pressure	22,9 bar
Perm. operating temperature	+1°C / +65°C

Classification acc. to 97 / 23 / EG for fluids group 2	
DF 0035 - DF 0320	Art. 3, par. 3
DF 0450 - DF 1100	Cat. I


DF  
0035 - 0450

DF  
0600 - 1100

Size housing/ element	Flow rate* m³/h	Volume (l)	Weight** (kg)	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H min./ max. mm	I mm
0035	0035	0.20	1.5	402	76	G ¼	334	100	175	85	5	84
0070	0070	0.40	1.9	448	103	G ⅜	373	115	178	107	5 / 34	107
0120	0120	0.50	2.0	492	103	G ½	417	150	178	107	5 / 34	107
0210	0210	1.15	3.0	533	139	G ¾	451	180	178	140	5 / 53	150
0320	0320	1.50	3.2	593	139	G 1	511	250	178	140	5 / 53	150
0450	0450	5	6.6	738	190	G 1¼	639	250	178	203	5 / 73	190
0600	0600	5	6.6	760	190	G 1½	661	250	201	203	5 / 73	190
0750	0750	5	6.6	760	190	G 2	661	250	201	203	5 / 73	190
1100	1100	6	6.9	867	190	G 2	769	250	201	203	5 / 73	190

\* Nominal flow at 7 bar g, m³/h related to 1 bar abs. and 20°C

\*\* without filter element



# Cyclone separator DF-C

The cyclone separator for the removal of solid and liquid particles and aerosols from compressed air and gases.

## Product description:

The cyclone separators DF-C are designed for the processing of compressed air or other gases in industrial applications.

The units offer a high degree of separation over a large flow range with small pressure losses. This is ensured by an innovative spin insert and a flow-optimised design of the housing.

This product series DF-C offers 6 different housings with a flow range between 120 and 1100 m<sup>3</sup>/h (related to 7 bar (g)).

The cyclone separator is conform to the requirements of the European directive 97/23/EG for pressure vessels.



Two versions are available:

## Standard

Type with time controlled condensate drain UFZ

## Superplus

Type with level-controlled condensate drain UFM-T



## Function description:

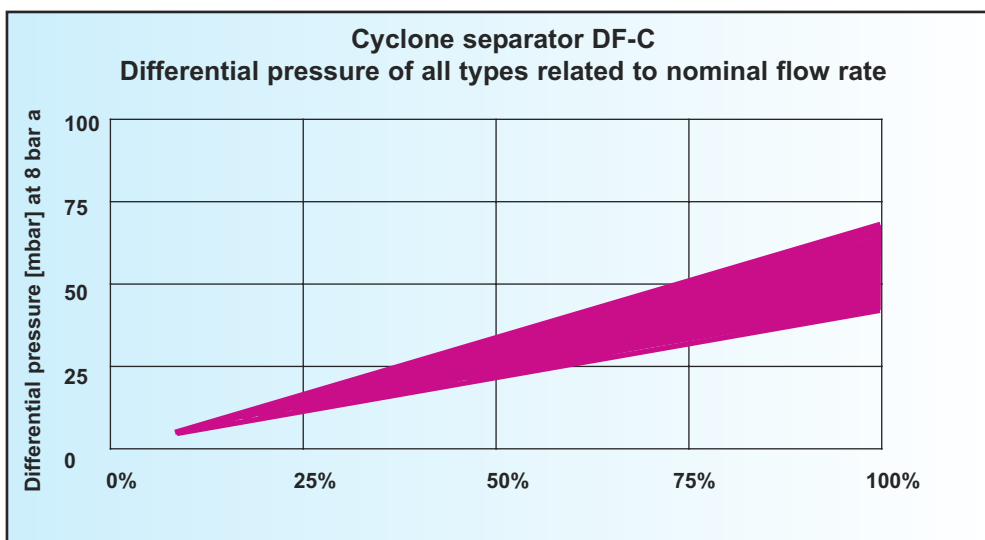
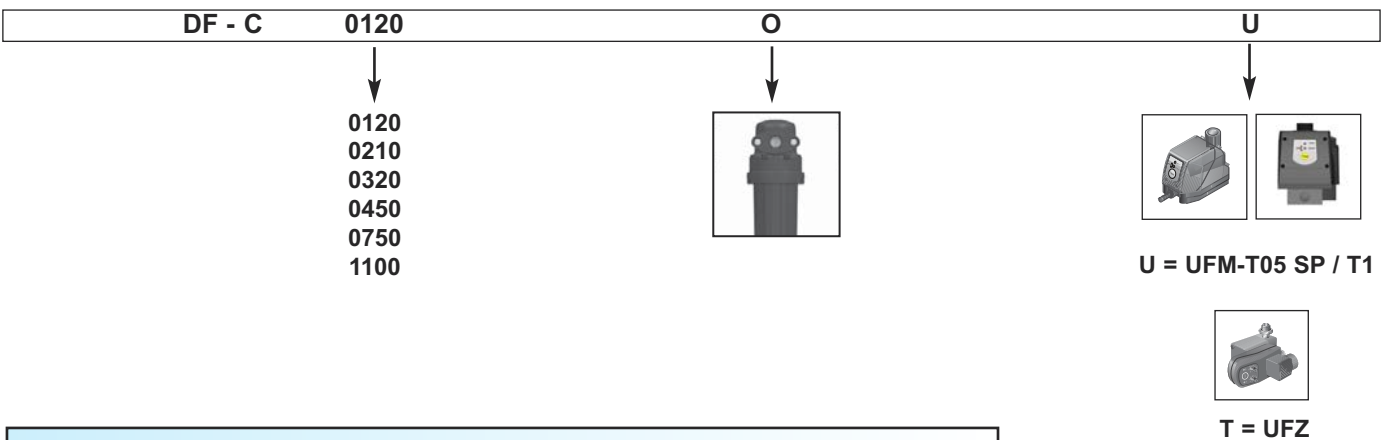
Through the innovative insert in the cyclone head the inlet air flow is moved into a fast rotating drive, which centrifuges larger particles due to their mass inertia against the inner housing wall. Through friction with the housing the particles lose part of their kinetic energy and slide down with reduced speed towards housing ground. The collected condensate on the housing ground is removed via condensate drain, while the purified compressed air is made available to the system.

## DF-C 0120 - DF-C 1100

### Technical Data

Features:	Benefits:
Flow-optimised design of the housing	Low pressure losses, thereby saving energy costs
Innovative spin insert	High retention rates over a large volume flow range
Intelligent overall concept	Series range, retention rates and available options perfectly meet requirements of industrial air purification. Adequate to the industrial filter series DF
Bayonet fixing between housing head and housing bowl	Easy to use construction, simple inspection and cleaning of the housing
Housing cannot be opened under pressure due to bayonet lock	High safety during operation
Housings immersion-laquererd on the inside and outside surface	Long-term corrosion protection, also against aggressive condensates

Options:	
UFM-T	Electronic level-controlled condensate drain without compressed air losses
UFZ	Time-controlled condensate drain
Wall bracket	Distance to the wall gradelessly adjustable
Connection adapter	Intelligent adapter solution for filter combination



Full retention rate related to 8 bar a:	
≥ 5 µm	99%
≥ 10 µm	100%

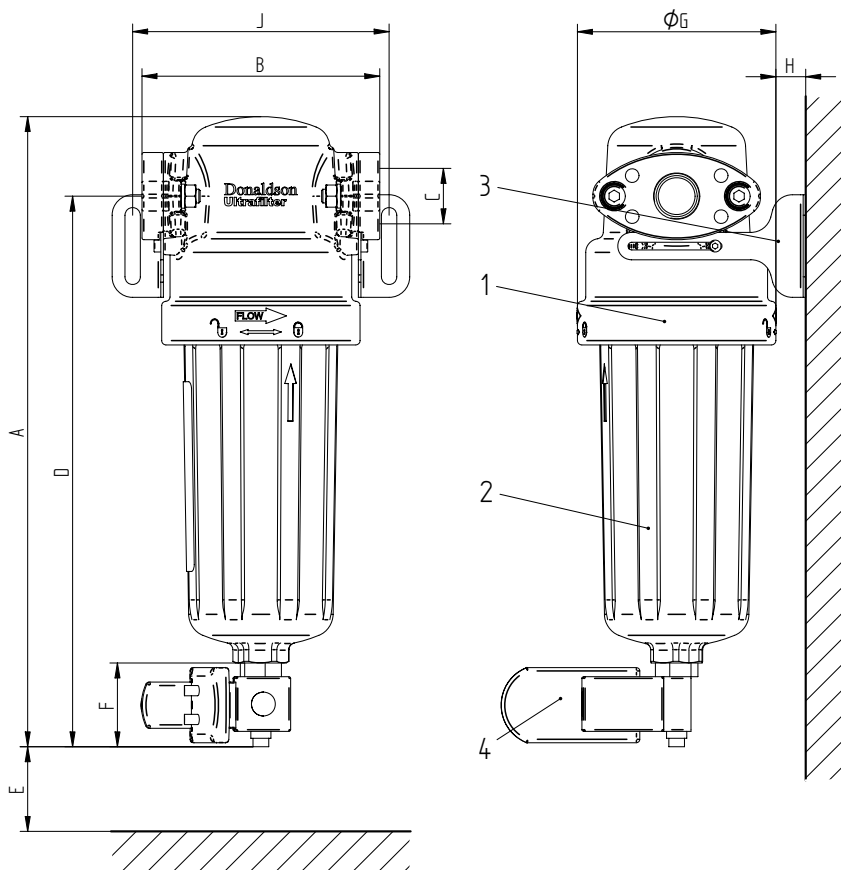
## DF-C 0120-1100 Standard

Pos.	Piece	Description
1	1	Housing head
2	1	Housing bowl
3	2	Wall bracket (option)
4	1	Drain UFZ

Materials	
Filter housing	Aluminium die cast
Float drain	Brass
Sealings	Viton / NBR

Max. operating pressure	16 bar
Test pressure	22.9 bar
Perm. operating temperature	+1°C / +65°C

Classification acc. to 97 / 23 / EG for fluids group 2	
DF-C 0120 - DF-C 0320	Art. 3, par. 3
DF-C 0450 - DF-C 1100	Cat. I



Size	Flow rate* m³/h	Volume (l)	Weight (kg)	A mm	B mm	C	D mm	E mm	F mm	G mm	H min./ max. mm	I mm
0120	0120	0.40	1.6	283	103	G ½	243.5	115	49	85	22.5 / 51.5	107
0210	0210	1.15	2.7	368.5	139	G ¾	322	180	49	116	22.5 / 70.5	150
0320	0320	1.15	2.7	368.5	139	G 1	322	180	49	116	22.5 / 70.5	150
0450	0450	5	2.9	572.5	190	G 1½	509.5	250	49	160	22.5 / 90.5	190
0750	0750	5	2.9	572.5	190	G 2	509.5	250	49	160	22.5 / 90.5	190
1100	1100	5	2.9	572.5	190	G 2	509.5	250	49	160	22.5 / 90.5	190

\* Nominal flow at 7 bar g, m³/h related to 1 bar abs. and 20°C

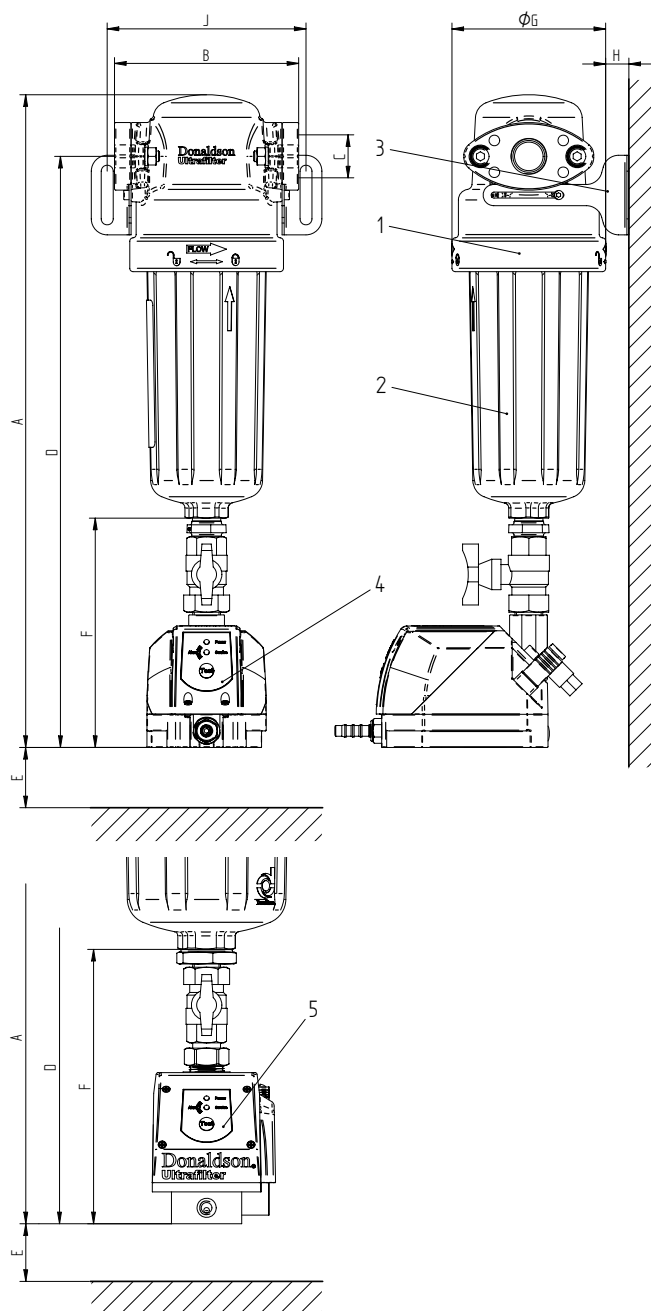
# DF-C 0120-1100 Superplus

Pos.	Pcs.	Description
1	1	Housing head
2	1	Housing bowl
3	2	Wall bracket (option)
4 DF 0120 - DF 0450	1	Condensate drain UFM-T05
5 DF 0750 - DF 1100	1	Condensate drain UFM-T1

Materials	
Filter housing	Aluminium die cast
UFM-T	Aluminium, glass fibre reinforced polymer
Gehäusedichtungen	Viton / NBR

Max. operating pressure	16 bar
Test pressure	22.9 bar
Perm. operating temperature	+1°C / +65°C

Classification acc. to 97 / 23 / EG for fluids group 2	
DF-C 0120 - DF-C 0320	Art. 3, par. 3
DF-C 0450 - DF-C 1100	Cat. I



Size	Flow rate* m³/h	Volume (l)	Weight (kg)	A mm	B mm	C	D mm	E mm	F mm	G mm	H min./ max. mm	I mm
0120	0120	0.40	1.6	407	103	G ½	367.5	115	173	85	22.5 / 51.5	107
0210	0210	1.15	2.7	492.5	139	G ¾	446	180	173	116	22.5 / 70.5	150
0320	0320	1.15	2.7	492.5	139	G 1	446	180	173	116	22.5 / 70.5	150
0450	0450	5	2.9	696.5	190	G 1½	633.5	250	173	160	22.5 / 90.5	190
0750	0750	5	2.9	659	190	G 2	722	250	207	160	22.5 / 90.5	190
1100	1100	5	2.9	659	190	G 2	722	250	207	160	22.5 / 90.5	190

\* Nominal flow at 7 bar g, m³/h related to 1 bar abs. and 20°C



# Depth Filter M, S

The depth filter for the removal of water, oil aerosols and solid particles from compressed air and gases with validated retention rate acc. to ISO 12500-1.

## Product description:

The filter elements type M, S are designed for the purification of compressed air or gases in industrial applications.

Validated performance data acc. to ISO 12500-1 for reliable achievement of compressed air quality suitable to achieve ISO 8573-1 quality classes.

Due to a flow-optimised design of the filter element as well as by the assigned filter media and the advanced production technology, the differential pressure is minimized and a continuously high separation efficiency is ensured.

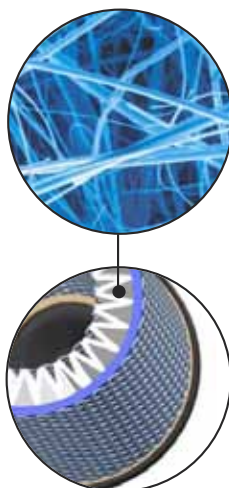
The filter elements type M and S are based on the three-dimensional micro fibre fleece made of coated borosilicate glass fibers, which works oil and water-rejecting.

By utilising various filtration mechanisms such as retention by direct impact, sieve-effect and diffusion effect, liquid aerosols and solid particles down to the size of 0.01µm are being retained in the filter.

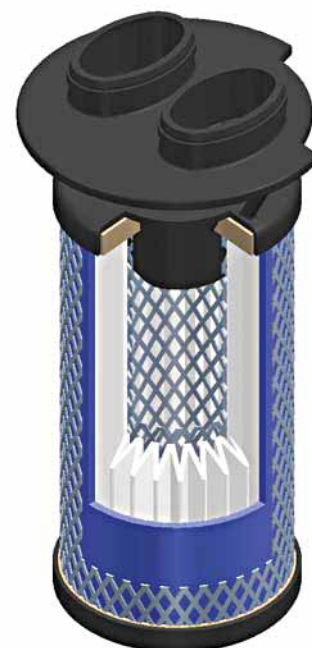
## Applications:

The depth filter is for example being utilised in the following industries:

- Final filtration for control and process air
- Pre-filter to protect adsorption dryers (M)
- Dust filter downstream adsorption dryers (M)
- General applications in food and beverage industries
- Filtration (S) upstream of activated carbon filters



Cross section of the depth filter with SEM micrograph of the filter media



Cross section of the depth filter

Element Type	Flowrate at 7 bar g m <sup>3</sup> /h *
0035	35
0070	70
0120	120
0210	210
0320	320
0450	450
0600	600
0750	750
1100	1100

**Sizing example for pressure which deviates from nominal pressure:**

$\dot{V}_{nom} = 350 \text{ m}^3/\text{h}$ , operating pressure = 9 bar (g)

$$\dot{V}_{corr} = \frac{\dot{V}_{nom}}{f_p}$$

$$\dot{V}_{corr} = \frac{350 \text{ m}^3/\text{h}}{1.25} = 280 \text{ m}^3/\text{h}$$

**Calculated Size: Type 0320**

Operating Pressure bar ü	Conversion factor f <sub>p</sub>
1	0.25
2	0.38
3	0.50
4	0.63
5	0.75
6	0.88
7	1.00
8	1.13
9	1.25
10	1.38
11	1.50
12	1.63
13	1.75
14	1.88
15	2.00
16	2.13

\* m<sup>3</sup>/h related to 1 bar abs. and 20°C

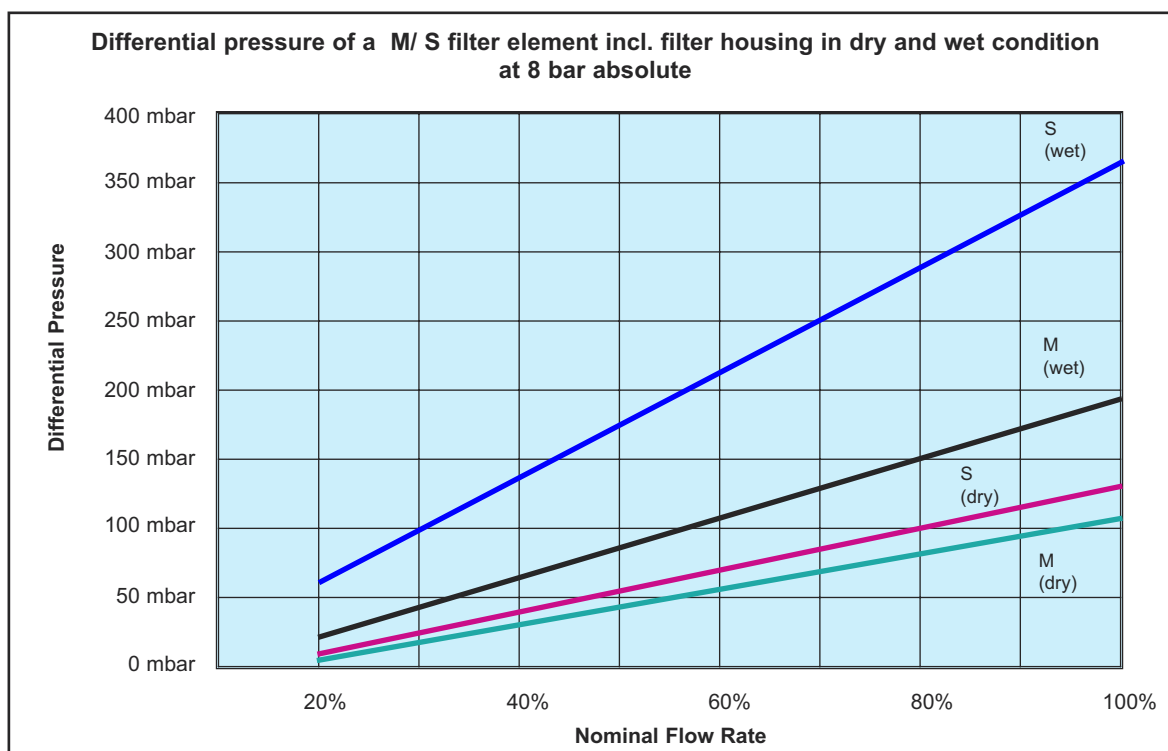
## Depth Filter Type M, S

Features:	Benefits:
Validated performance data acc. to ISO 12500-1	Reliable reaching of the compressed air quality according to ISO 8573-1
Intelligent overall concept	Flow range, filtration grades, efficiencies and available options perfectly meet requirements of air purification
Flow-optimised Design	Minimum pressure losses, thereby savings of energy costs
Pleated filter media	High dirt retention capacity by enlarged filter surface with smallest pressure loss
Coalescence sleeve fixed by outside support sleeve	Flow area between element and housing guaranteed at any time; optimised drainage function by constant stable structure of the coalescence sleeve
Support sleeve made of stainless steel meshed grid	Protection of the filter media against pressure shocks
Use of stainless steel material with glass fiber reinforced polyamide	Optimal corrosion protection

Materials:	
Filter media	Borosilicate glass fibre fleece
Coalescence sleeve	Polyester fleece
Inner and outer support sleeves	Stainless steel 1.4301 / 304
End caps	Glass fibre reinforced polymer
O-Rings	Viton: silicone free and free of compound (Standard)
Bonding	Polyurethane

Validation:
Validation of high-efficiency filters acc. to ISO 12500-1

Particle retention rate related to 0.01 µm	Oil retention rate acc. to ISO 12500-1	Residual oil content at an inlet concentration of		
			10 mg/Nm <sup>3</sup>	3 mg/Nm <sup>3</sup>
$\eta$ (M) = 99.99998%	$\eta$ (M) = 99.7%	$\dot{m}_{Oil}$ (M) [mg/Nm <sup>3</sup> ]	0.03	< 0.02
$\eta$ (S) = 99.99999%	$\eta$ (S) = 99.8%	$\dot{m}_{Oil}$ (S) [mg/Nm <sup>3</sup> ]	0.02	< 0.01



## BA-Series

### Dual-Stage Compressed Air Filters

- Coalescer/Adsorber Combination Unit
- Flows to 75 SCFM
- Pressures to 500 PSIG



**Finite®**

# Finite® Breathing Air Purifiers

## Dual-Stage Compressed Air Filters - BA-Series



Finite®'s BA-Series Purifiers are available in 1/4" - 1" NPT connection sizes.

**BA**-Series filters are designed to be used as point-of-use breathing air filters. This combination unit contains both a fine grade coalescing filter element and an activated carbon vapor removal element.

BA-Series filters may also be used in applications requiring compressed air to be free of odor or taste bearing hydrocarbons. Food/beverage applications would be typical where compressed air comes in contact with the product. The BA-Series can also be used as a prefilter for critical needs such as zero air generators, membrane filters and many others!

Replacement elements are supplied in convenient repair kits which include one coalescing element, two activated carbon adsorber elements, and replacement seals. Two adsorber elements are supplied because the stage one coalescer will routinely outlive the extremely sensitive second-stage adsorber element.

For severe applications with excessive solid and liquid contaminants, the BA-Series should be preceded by **Finite®** H-Series (Bulletin 1300-993/USA) pre-coalescer or interceptor filters.

**Finite®** also supplies pressure regulators which can be used downstream of the BA-Series to lower system operating pressures to desired levels for breathing air applications. Please refer to **Finite®** bulletin 1300-703-3/USA.



### Finite®'s BA - Series Offers...

- Connection sizes: 1/4" - 1" NPT
- Flows: Up to 75 SCFM
- Maximum Pressure: 500 PSIG
- Maximum Temperature: 175° F
- Drain Port: 1/8" NPT with standard manual drain (float drain available)

### Typical Applications

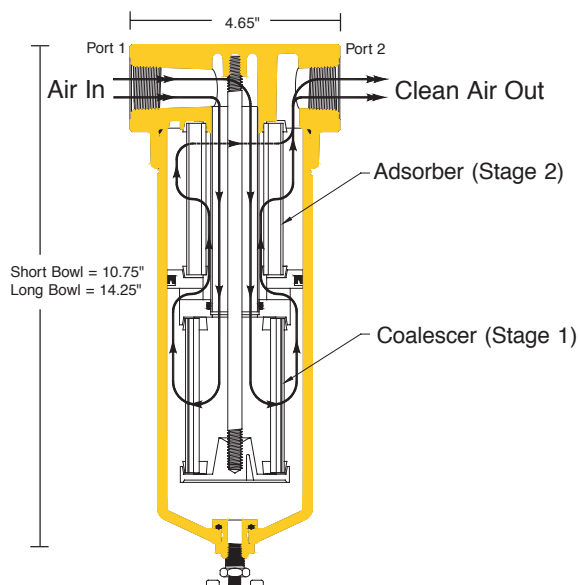
- Industrial Breathing Air
- Aircraft Cabin Air
- Zero Air Generator Prefilter
- Food Processing/Packaging
- Membrane Prefiltration
- Instrument Air Dryer Prefilter

# How it works

Compressed air enters port #1 of the housing and is directed down a hollow chamber into the first-stage coalescing element (bottom). Oil, water and solid contaminant is removed with a 99.97% or higher efficiency as the air flows from the inside of the element to the outside. The coalesced liquid drains off the element into the bowl where it is removed either manually, or by an automatic float drain. The oil-free air then is redirected upwards to

the inside of the adsorber element (top) by means of a non-bypassing separation device. The second stage's activated carbon element collects hydrocarbon vapors as the air flows from the inside to the outside of the element. The purified air then exits through port #2 of the housing.

**Note:** This product does not remove toxic gases from the air stream. A carbon monoxide monitor is recommended.



## Choice of media types

All BA filters have an activated carbon element (Stage 2). Depending on the application, you may either choose to use a micro-glass coalescer (C) or a micro-glass coalescer with a built-in prefilter (Q) (Stage 1.)

### Stage 1

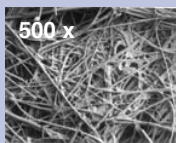


C: Micro-glass coalescer

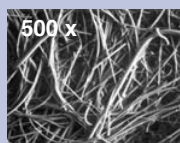


Q: Micro-glass coalescer with built-in pleated prefilter

### Grade 4



### Grade 6



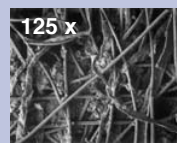
Stage 1 coalescers come in grade 6 (standard) or grade 4. Choose grade based on coalescing efficiencies in the chart below.

### Stage 2



A: Activated Carbon

### Grade A



Stage 2 adsorber polishes air stream of final trace amounts of hydrocarbon vapors with an efficiency of 99%+.

## Coalescing Media Specifications

Grade Designation	Coalescing Efficiency .3 to .6 Micron Aerosols	Maximum Oil Carryover <sup>1</sup> PPM w/w	Micron Rating
4	99.995%	.003	.01
6	99.97%	.008	.01

<sup>1</sup>Tested per ADF-400 at 40 ppm inlet.

## Q. What is the expected life of my BA-Series filter element?

A. Expected life of the filter elements is entirely dependent on the quality of the incoming compressed air, but can be several thousand hours. However, the elements should be changed whenever odors and/or taste become present regardless of hours in operation.



## BA-Series

Dual-Stage  
Compressed Air  
Filters

**New!**

We've added new port sizes to our BA-Series. We are now offering 1/4", 3/8" and 1/2" NPT port sizes. See below on how to order.

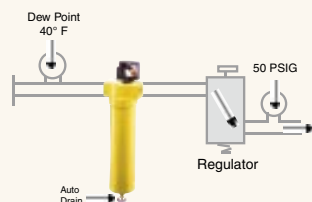
Please use this page to replace page 4 of Finite's Bulletin 1300-905/USA.

### Flow Ratings:

Part Number	BAN1L		BAN15L		BAN2L		BAN3S		BAN4S		BAN3L		BAN4L	
Grade	4	6	4	6	4	6	4	6	4	6	4	6	4	6
Max. Rated Flow (SCFM) at 100 PSIG	10	14	12	16	14	18	25	30	35	45	40	60	50	75
$\Delta p$ (dry)	2.0		2.0		2.0		1.5		2.0		1.5		2.0	
$\Delta p$ (wet)	4.0		4.0		4.0		3.5		4.0		3.5		4.0	

Note: The differential pressure ( $\Delta p$ ) includes the effects of the housing and both elements.

## Application:



Use any compressor with after-cooler and refrigerated dryer. Air intended for use as industrial breathing air and in decompression chambers. **CAUTION:** Always use high temperature synthetic lubricants and monitor (alarm) for carbon monoxide concentrations exceeding established maximum recommended levels. This system will not eliminate toxic gases!

**OTHER SPECS MET:** O.S.H.A. 29CFR 1910.134

# How to Order

### Complete Dual-Stage Assemblies

Series Name	Port Type	Port (Connection) Size	Bowl L - Long S - Standard	Element Grade	Element Type	End Seal	Accessory Designator for preinstalled accessories
<b>BA</b>	<b>N</b>	<b>3</b>	<b>L</b>	<b>6</b>	<b>C</b>	<b>U</b>	<b>G</b>
	N - NPT	1 - 1/4" 15 - 3/8" 2 - 1/2" 3 - 3/4" 4 - 1"	(S available on 3/4" and 1" port size only)	4 6	C Q	U = Urethane (Standard on all elements)	A - Auto Drain D - DPI Indicator (1/4"-1/2" only) G - DPG Gauge N - No Accessories W - A + D (1/4"-1/2" only) Y - A + G

Note: Designate first stage; grade and media type, second stage; media type will always be "A" media, and is not designated in the part number

### BA-Series Replacement Elements

Repair Kit	Series Name	Port (Connection) Size	Bowl L - Long S - Standard	Element Grade	Element Type	End Seal
<b>K</b>	<b>BA</b>	<b>3</b>	<b>L</b>	<b>6</b>	<b>C</b>	<b>U</b>
		1 - 1/4" 15 - 3/8" 2 - 1/2" 3 - 3/4" 4 - 1"	(S available on 3/4" and 1" port size only)	4 6	C Q	U = Urethane (Standard on all elements)

Note: Each repair kit contains (1) coalescing element, (2) activated carbon adsorber elements and replacement seals.

## Compressed Air Filters 2" to 3" Line Size

### Features

Differential pressure gauges allow optimum element change-outs

External automatic drain supplied

Flow rates to 4230m<sup>3</sup>/h (2488SCFM)

All Aluminium construction, with a tough chromated and powder paint finish

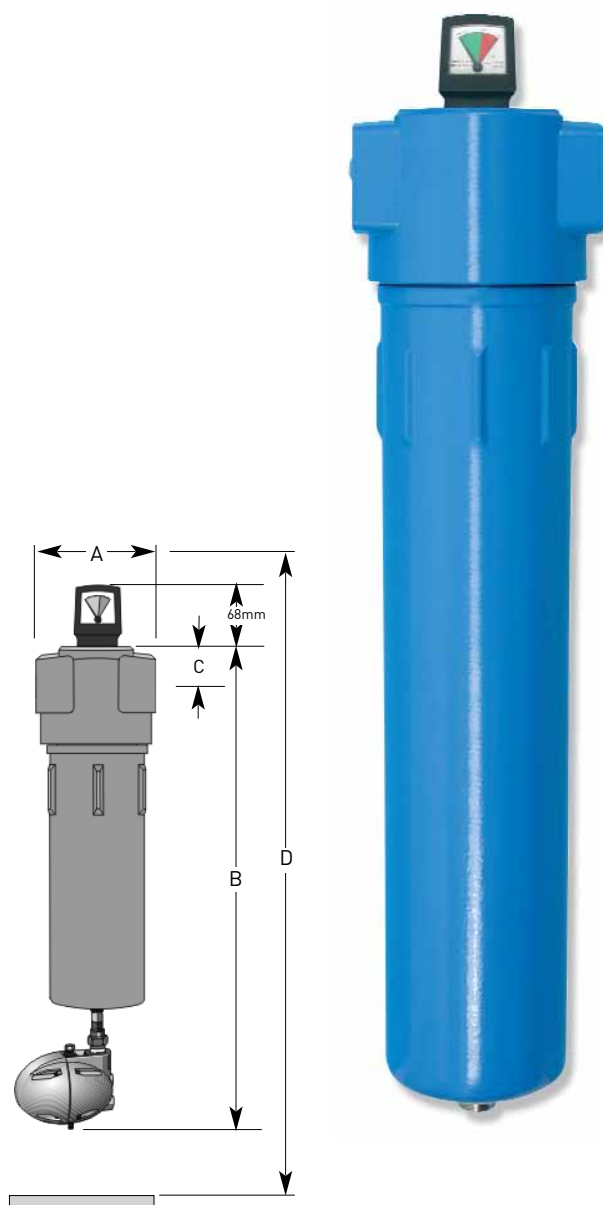
### Parker CE-Series Compressed Air Filters

Parker CE-Series compressed air filters protect your equipment and delicate instruments from the dirt, water and oil found in compressed air. CE-Series housings are available with oil and water removal (coalescing), particulate and oil vapour removal elements.

CE-Series housings have a maximum pressure to 16 barg, and port sizes to 3" giving a maximum flow rate of 4230m<sup>3</sup>/h (2488SCFM). An all aluminum construction with a tough powder paint finish provides a rugged construction offering a long life.

### Dimensions

Air Filter	A	B	C	D
<b>CE8SY</b>	164mm	825mm	48mm	890mm
<b>CE8LY</b>	164mm	1075mm	48mm	1140mm
<b>CE0SY</b>	250mm	1050mm	74mm	1115mm
<b>CE12SY</b>	250mm	1200mm	74mm	1265mm



### Filter Element Description

**General purpose applications such as plant compressed air single stage filtration.**

Use a 10C grade filter

**Instrument air and other critical air requirements two stage filtration is necessary.**

Use a 10C followed by a 6C

**Removal of trace compressor oil vapour for instances where even a trace amount of oil vapour can cause a problem, three stage filtration is necessary.**

Use a grade 10C followed by a 6C and a type AU

**For particulate removal where high dirt holding is required**

Use 3P Media



# Compressed Air Filters

## 2" to 3" Line Size

### Principal Specifications

Port Size	CE8SY 2"	CE8LY 2"	CE0SY 2 1/2"	CE12SY 3"
<b>Materials of Construction</b>				
Head	Aluminium	Aluminium	Aluminium	Aluminium
Bowl	Aluminium	Aluminium	Aluminium	Aluminium
Seals <sup>(1)</sup>	Nitrile	Nitrile	Nitrile	Nitrile
Maximum Temperature <sup>(2)</sup>	60°C	60°C	60°C	60°C
Maximum Pressure <sup>(3)</sup>	16 barg	16 barg	16 barg	16 barg
Shipping Weight	9.6 Kg	12.3 Kg	24.6 Kg	27 Kg
Dimensions	164x825mm	164x1075mm	250x1050mm	250x1200mm
Additional length for Bowl removal	520mm	770mm	600mm	750mm

### Ordering Information

Replacement Element (* insert media selected grade 2, 4, 6, 8, 10)				
	CE8SY	CE8LY	CE0SY	CE12SY
Coalescer Grade 10	AZ28-201x1	AZ28-299x1	AZ46-238x1	AZ46-298x1
Coalescer Grade 6	3PZ28-201x1	3PZ28-299x1	3PZ46-238x1	3PZ46-298x1
Interceptor	6CZ28-201x1	6CZ28-299x1	6CZ46-238x1	6CZ46-298x1
Adsorber	10CZ28-201x1	10CZ28-299x1	10CZ46-238x1	10CZ46-298x1

### How to Order the Filter Assembly Part Numbers

Use the matrix below to specify what filter assembly you require.

**C**

 Series  
Name

**E**

Port Type

**1 2**

Port Size

8 - 2" G (BSP)  
 0 - 2 1/2" G (BSP)  
 12 - 3" G (BSP)

**L**

Bowl

S - Standard  
 L - Long

**6**

 Element  
Grade

6	C - Coalescer
10	
3	P - Pleated Cellulose
Leave Blank for Adsorber	A - Adsorber

**C**

 Element  
Type

**Y**

Accessories

Y - External  
 Auto Drain  
 and  
 Differential  
 Pressure  
 Gauge

## International H-Series

### Compressed Air & Gas Filters

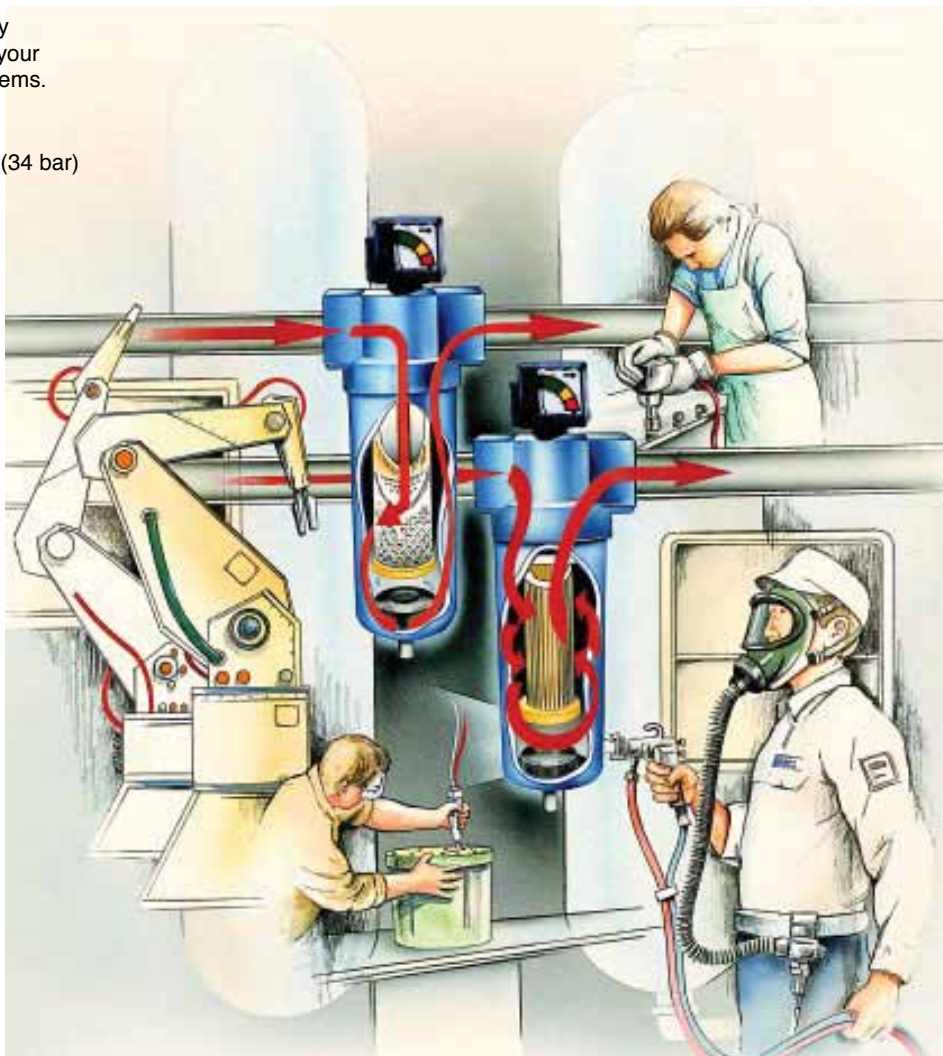
- **Coalescing, Particulate & Hydrocarbon Adsorption**
- **Flows from 10 to 1600 SCFM; 17 to 2822 m<sup>3</sup>/hr**
- **1/4" to 3" NPT, BSPF & BSPT Ports**



**F**inite Filter's International H-Series is the right solution for most compressed air/gas applications. The International H-Series housings are available with oil removal (coalescing), particulate and oil vapor removal elements.

This world class, world quality product can greatly improve your compressed air and gas systems.

- ◆ **Pressure To:** 500 PSIG (34 bar)
- ◆ **Porting:** 1/4" - 3" (NPT - BSPF - BSPT)
- ◆ **Flows:** 10 - 1600 SCFM (17-2822 m³/hr)
- ◆ **Construction:** All aluminum with powder paint finish
- ◆ **Design:** In-line threaded bowl to head



## Typical Applications

### Coalescing (Oil Removal)

- ◆ Dryer protection
- ◆ Paint spray booths
- ◆ Breathing air
- ◆ Tool protection
- ◆ Valve protection
- ◆ Cylinder protection
- ◆ Compressed air system protection

### Interceptor (Particulate Removal)

- ◆ Desiccant dryer afterfilter
- ◆ Prefilter for coalescer
- ◆ Systems with high particulate concentration
- ◆ Particulate protection for non lubricated systems

### Adsorber (Vapor Removal)

- ◆ Odor removal
- ◆ Breathing air
- ◆ Food packaging machines
- ◆ High purity laboratory gases

# Housing Selection Chart

Housing Assembly	Port Size	Rated Flows: <b>SCFM @ 100 PSIG</b> (m <sup>3</sup> /hr @ 7 bar) ±10%						
		See page 8 for other pressures						
		<b>4</b> C/CU/QU/DS	<b>STANDARD 6</b> C/CU/QU/DS	7CVP	<b>8</b> C/CU/QU/DS	<b>10</b> C/CU/QU/DS	AU Adsorbers	3PU Interceptors
H□1S	1/4"	11 (19)	15 (26)	N/A	20 (34)	25 (43)	15 (26)	25 (43)
H□15S	3/8"	15 (26)	20 (34)	N/A	27 (46)	33 (56)	20 (34)	33 (56)
H□2S	1/2"	19 (32)	25 (43)	N/A	34 (58)	42 (71)	25 (43)	42 (71)
H□1L	1/4"	23 (39)	30 (51)	N/A	41 (68)	50 (85)	30 (51)	50 (85)
H□15L	3/8"	30 (51)	40 (68)	N/A	55 (94)	66 (112)	40 (68)	66 (112)
H□2L	1/2"	38 (65)	50 (85)	N/A	68 (116)	83 (141)	50 (85)	83 (141)
H□3S	3/4"	61 (104)	80 (136)	N/A	109 (185)	133 (226)	80 (136)	133 (226)
H□4S	1"	76 (129)	100 (170)	N/A	136 (231)	166 (282)	100 (170)	166 (282)
H□4L	1"	106 (180)	140 (238)	N/A	191 (325)	232 (394)	140 (238)	232 (394)
H□5S	1 1/4"	190 (323)	250 (425)	415 (706)	330 (461)	415 (706)	250 (425)	415 (706)
H□6S	1 1/2"	260 (442)	350 (595)	600 (1020)	465 (791)	600 (1020)	350 (595)	600 (1020)
H□8S	2"	340 (578)	450 (765)	750 (1275)	600 (1020)	750 (1275)	450 (765)	750 (1275)
H□8L	2"	470 (799)	625 (1063)	1035 (1760)	830 (1411)	1035 (1760)	625 (1063)	1035 (1760)
H□0L	2 1/2"	600 (1020)	800 (1360)	1330 (2261)	1060 (1802)	1330 (2261)	800 (1360)	1330 (2261)
H□12L	3"	750 (1275)	1000 (1700)	1660 (2822)	1330 (2261)	1660 (2822)	1000 (1700)	1660 (2822)

## Pre-Installed Accessory Options

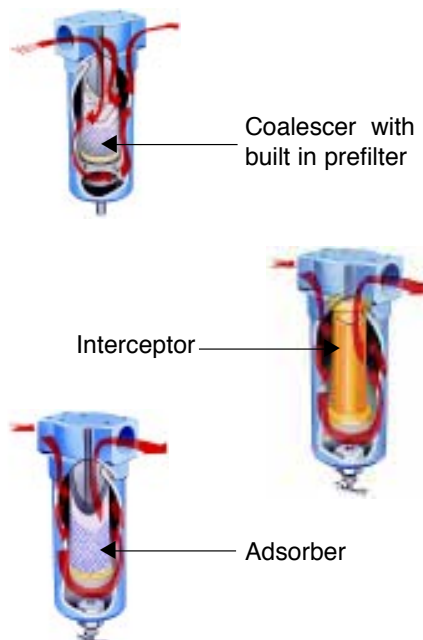
Accessory Designator	Auto Drain	DPI Indicator	DPG Gauge	High Temp	DP Ports	Fluorocarbon O-Rings	No Accessories	Pressure/Temp		Pressure/Temp	
								PSIG	Degrees F	bar	Degrees C
A								250	175	17	79
D								250	175	17	79
G								500	175	34	79
J								250	450	17	232
N								500	175	34	79
P								250	175	17	79
V								500	175	34	79
W								250	175	17	79
X								250	175	17	79
Y								250	175	17	79

## How To Order

H	N	1	2	L	-	6	C	U	G
Series Name	Port Type	Port Size		Bowl		Element Grade	Element Type	End Seal	Accessories
N - NPT		1 - 1/4"		S - Standard		4	C - Coalescer	Blank - No end seal Standard on 1/4" - 1"	A - Auto Drain
F - BSPF		15 - 3/8"		L - Long		6	Q - Coalescer w/built-in prefilter		D - DPI Indicator (1/4" - 1/2")
S - SAE*		2 - 1/2"				8	D - High Temp.	U - Urethane Standard on 1 1/4" & up	G - DPG Gauge (Std. on 3/4" & up)
T - BSPT		3 - 3/4"				10	I - Inner Ret. (1/4" - 1")		J - High Temp.
		4 - 1"					P - Pleated Cellulose	S - Silicone	N - No Accessories
		5 - 1 1/4"					A - Adsorber		P - 1/8" Differential (3/4" & up) Sensing Ports
*SAE32 (2") only		6 - 1 1/2"				3	CVP - Pleated Coalescer	V - Fluorocarbon	V - Fluorocarbon Seals
		8 - 2"				Leave Blank for Adsorber			W - A + D
		0 - 2 1/2"							X - A + P
		12 - 3"				7			Y - A + G

## Replacement Element Part Numbers

Housing Assembly	Media Type (* Insert selected grade 4, 6, 8, 10)				
	Coalescer	Coalescer w/ built-in prefilter	7CVP Pleated Coalescer	3PU Interceptor	AU Adsorber
H□ 1S	*C10-025	*QU10-025	N/A	3PU10-025	AU10-025
H□ 15S	*C10-025	*QU10-025	N/A	3PU10-025	AU10-025
H□ 2S	*C10-025	*QU10-025	N/A	3PU10-025	AU10-025
H□ 1L	*C10-050	*QU10-050	N/A	3PU10-050	AU10-050
H□ 15L	*C10-050	*QU10-050	N/A	3PU10-050	AU10-050
H□ 2L	*C10-050	*QU10-050	N/A	3PU10-050	AU10-050
H□ 3S	*C15-060	*QU15-060	N/A	3PU15-060	AU15-060
H□ 4S	*C15-060	*QU15-060	N/A	3PU15-060	AU15-060
H□ 4L	*C15-095	*QU15-095	N/A	3PU15-095	AU15-095
H□ 5S	*CU25-130	*QU25-130	7CVP25-130	3PU25-130	AU25-130
H□ 6S	*CU25-130	*QU25-130	7CPV25-130	3PU25-130	AU25-130
H□ 8S	*CU25-187	*QU25-187	7CVP25-187	3PU25-187	AU25-187
H□ 8L	*CU25-235	*QU25-235	7CVP25-235	3PU25-235	AU25-235
H□ 0L	*CU35-280	*QU35-280	7CVP35-280	3PU35-280	AU35-280
H□ 12L	*CU35-280	*QU35-280	7CVP35-280	3PU35-280	AU35-280



## International H-Series Accessories



**DPG-15 Differential Pressure Gauge**

Temp.:  
175°F (79°C)  
Pressure:  
500 PSIG (34 bar)



**AD-12 Automatic Drain Valve (Internal)**

Temp.:  
175°F (79°C)  
Pressure:  
250 PSIG (17 bar)



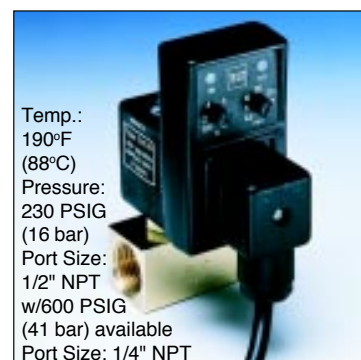
**VS-50 Visual Sump Drain**  
(not shown: Standard Bowl Guard)

Temp.:  
125°F  
(52°C)  
Pressure:  
150 PSIG  
(10 bar)  
Port Size:  
1/2" NPT



**MS-50 Metal Sump Drain (External)**

Temp.:  
175°F (79°C)  
Pressure:  
250 PSIG (17 bar)  
Port Size: 1/2" NPT



**TV-98 Timed Drain Valve**

Temp.:  
190°F  
(88°C)  
Pressure:  
230 PSIG  
(16 bar)  
Port Size:  
1/2" NPT  
w/600 PSIG  
(41 bar) available  
Port Size: 1/4" NPT



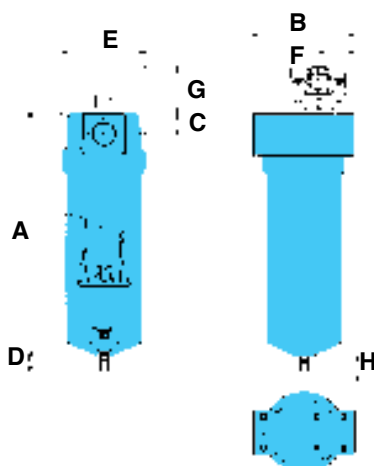
**ZLD-10 Zero Loss Drain**

Temp.:  
35°-140°F  
(2°-60°C)  
Pressure:  
12-250 PSIG (0-17 bar)  
Port Size: 1/2" NPT



# Drawings, Dimensions & Specifications

## 1/4" to 1" Housings



### Specifications

Max. Pressure: **500 psig** (34 bar)  
Safety Factor: Max. operating to burst 4:1  
Max Temp.: **175°F** (79°C) with option to **450°F** (232°C)  
Seals: Nitrile Std./Fluorocarbon optional  
Materials: Aluminum - 380 Die cast heads;  
6061 Drawn bowls  
Coatings: Chromated heads and bowls;  
Powder painted exterior  
Design: In-line threaded bowl to head

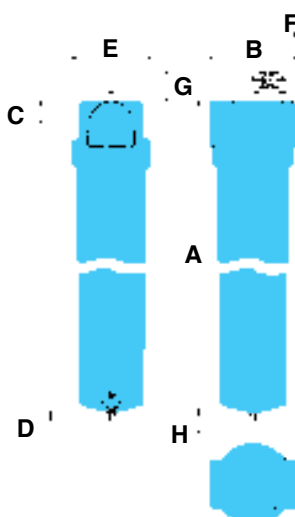
Note: Manual Drain Port is 1/8" FNPT when tee valve is removed from drain bushing.

Model	A	B	C	D	E	F	G	H*	Sump (ml)	Weight
H□1S	7.21 (183)	3.12 (79)	.53 (13)	.79 (20)	2.98 (76)	1.56 (39.5)	2.6 (66)	2.99 (76)	150	1.49 (.68)
H□15S	7.21 (183)	3.12 (79)	.53 (13)	.79 (20)	2.98 (76)	1.56 (39.5)	2.6 (66)	2.99 (76)	150	1.47 (.66)
H□2S	7.21 (183)	3.12 (79)	.53 (13)	.79 (20)	2.98 (76)	1.56 (39.5)	2.6 (66)	2.99 (76)	150	1.44 (.65)
H□1L	9.69 (246)	3.12 (79)	.53 (13)	.79 (20)	2.98 (76)	1.56 (39.5)	2.6 (66)	5.51 (140)	140	1.89 (.86)
H□15L	9.69 (246)	3.12 (79)	.53 (13)	.79 (20)	2.98 (76)	1.56 (39.5)	2.6 (66)	5.51 (140)	140	1.87 (.85)
H□2L	9.69 (246)	3.12 (79)	.53 (13)	.79 (20)	2.98 (76)	1.56 (39.5)	2.6 (66)	5.51 (140)	140	1.85 (.84)
H□3S	10.75 (273)	4.65 (118)	.98 (25)	.79 (20)	3.68 (93.5)	1.73 (44)	2.6 (66)	6.5 (165)	270	3.56 (1.61)
H□4S	10.75 (273)	4.65 (118)	.98 (25)	.79 (20)	3.68 (93.5)	1.73 (44)	2.6 (66)	6.5 (165)	270	3.29 (1.49)
H□4L	14.25 (362)	4.65 (118)	.98 (25)	.79 (20)	3.68 (93.5)	1.73 (44)	2.6 (66)	10.00 (254)	270	4.11 (1.86)

Special Note: Dimensions are in **inches** (millimeters); weight is in **pounds** (kilograms).

\* Clearance required to remove bowl.

## 1 1/4" to 3" Housings



### Specifications

Max. Pressure: **500 psig** (34 bar)  
Safety Factor: Max. operating to burst 4:1  
Max Temp.: **175°F** (79°C) with option to **450°F** (232°C)  
Seals: Nitrile Std./Fluorocarbon optional  
Materials: Aluminum - 356 Sand cast heads;  
6061 Drawn bowls  
Coatings: Chromated heads and bowls;  
Powder painted exterior  
Design: In-line threaded bowl to head

Note: Manual Drain Port is 1/8" FNPT when tee valve is removed from drain bushing.

Model	A	B	C	D	E	F	G	H*	Sump (ml)	Weight
H□5S	18.23 (463)	6.0 (152)	1.65 (42)	.83 (21)	5.67 (144)	1.85 (47)	2.6 (66)	13.50 (343)	440	12.11 (5.49)
H□6S	18.23 (463)	6.0 (152)	1.65 (42)	.83 (21)	5.67 (144)	1.85 (47)	2.6 (66)	13.50 (343)	440	11.97 (5.43)
H□8S	24.29 (617)	6.0 (152)	1.65 (42)	.83 (21)	5.67 (144)	1.85 (47)	2.6 (66)	19.25 (489)	530	14.00 (6.35)
H□8L	29.33 (745)	6.0 (152)	1.65 (42)	.83 (21)	5.67 (144)	1.85 (47)	2.6 (66)	24.02 (610)	620	15.99 (7.25)
H□10L	35.98 (914)	8.0 (203)	2.4 (61)	.83 (21)	7.24 (184)	2.36 (60)	2.6 (66)	28.50 (724)	880	35.00 (15.87)
H□12L	35.98 (914)	8.0 (203)	2.4 (61)	.83 (21)	7.24 (184)	2.36 (60)	2.6 (66)	28.50 (724)	880	34.14 (15.48)

Special Note: Dimensions are in **inches** (millimeters); weight is in **pounds** (kilograms).

\* Clearance required to remove bowl.





# 4.2

# Regulator



## Stainless Steel

### FRLs

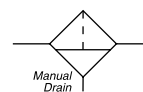
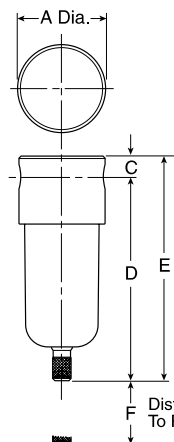
### Air Preparation Units



## Filter - 1/4" Miniature

### Features

- Stainless Steel Construction handles most corrosive environments.
- Fluorocarbon seals standard.
- High Flow: 1/4" – 10.85 dm<sup>3</sup>/s
- Meets NACE specifications.  
National Association of Corrosion Engineers



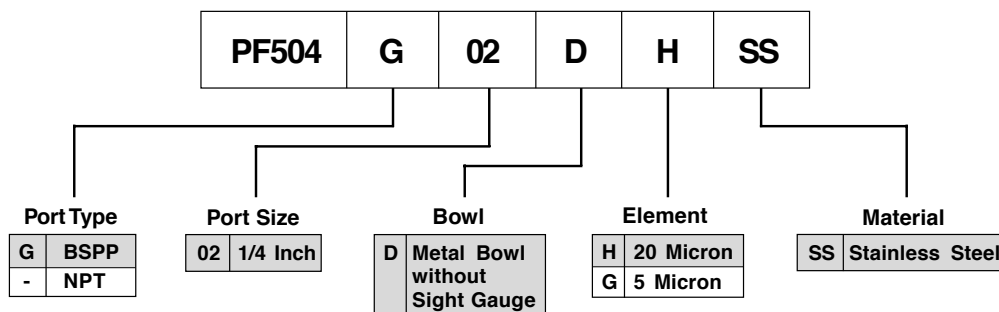
Port Size	BSP	NPT
	Manual Drain	Manual Drain
1/4"	<b>PF504G02DHSS</b>	PF504-02DHSS

Standard part numbers shown, for other models refer to ordering information below.

§ dm<sup>3</sup>/s = flow at 6.2 bar and 0.3 bar pressure drop.

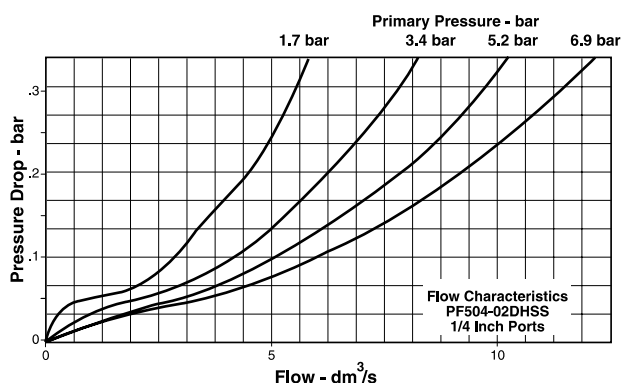
PF504 Filter Dimensions		
A	C	D
40mm	8mm	94mm
E	F	
102mm	40mm	

### Ordering Information



NOTE: Shaded items are standard.

### Technical Information



### Specifications

Bowl Capacity	29 cm <sup>3</sup>
Filter Rating	20 Micron
Sump Capacity	12 cm <sup>3</sup>
Port Threads	1/4 Inch
Pressure & Temperature Ratings	0 to 20.7 bar (0 to 300 PSIG) 4°C to 82°C (40°F to 180°F)
Weight	275g

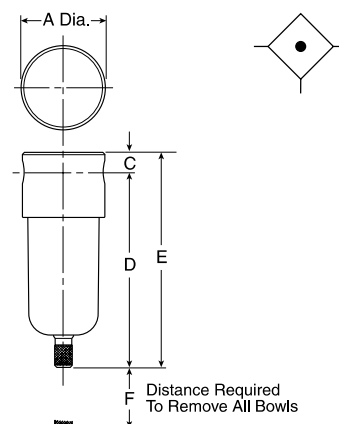
### Materials of Construction

Body	316 Stainless Steel
Bowls	316 Stainless Steel
Drain	316 Stainless Steel
Filter Element	Polyethylene
Element Holder	Acetal
Seals	Fluorocarbon
Deflector	Acetal

## Coalescing Filter - 1/4" Miniature

### Features

- Stainless Steel Construction handles most corrosive environments.
- Meets NACE specifications.
- High Flow: 1/4" – 7.55 dm<sup>3</sup>/s



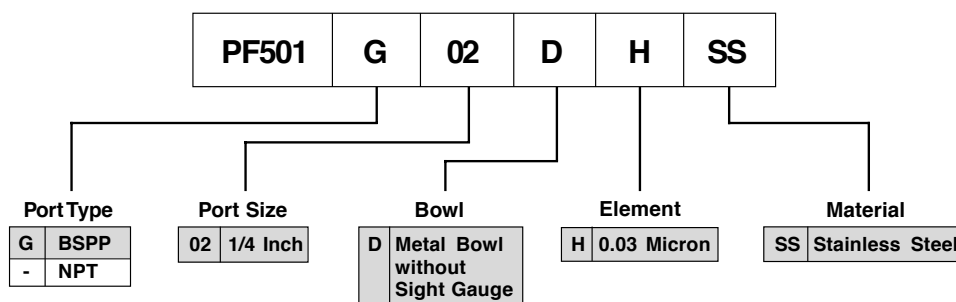
Port Size	BSPP	NPT
	Manual Drain	Manual Drain
1/4"	PF501G02DHSS	PF501-02DHSS

Standard part numbers shown, for other models refer to ordering information below.

§ dm<sup>3</sup>/s = flow at 6.2 bar and 0.3 bar pressure drop.

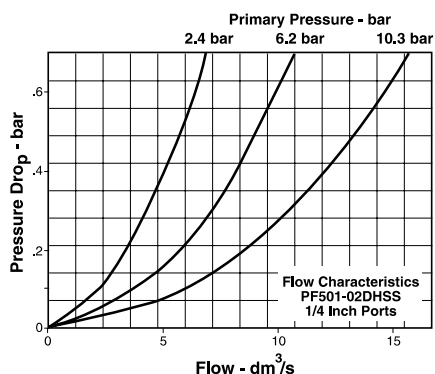
PF501 Coalescing Filter Dimensions		
A	C	D
40mm	8mm	94mm
E	F	
102mm	40mm	

### Ordering Information



NOTE: Shaded items are standard.

### Technical Information



### Specifications

Bowl Capacity	29 cm <sup>3</sup>
Filter Rating	0.03 Micron
Sump Capacity	12 cm <sup>3</sup>
Port Threads	1/4 Inch
Pressure & Temperature Ratings	0 to 20.7 bar (0 to 300 PSIG) ..... 4°C to 82°C (40°F to 180°F)
Weight	270g

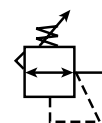
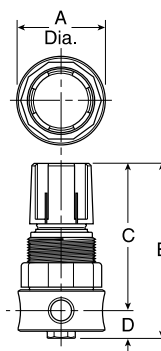
### Materials of Construction

Body	316 Stainless Steel
Bowls	316 Stainless Steel
Drain	316 Stainless Steel
Filter Element	Borosilicate Fiber
Element Holder	Acetal
Seals	Fluorocarbon

## Regulator - 1/4" Miniature

### Features

- Stainless Steel Construction handles most corrosive environments.
- Large diaphragm to valve area ratio for precise regulation and high flow capacity.
- Meets NACE specifications.
- High Flow: 1/4" – 5.75 dm<sup>3</sup>/s



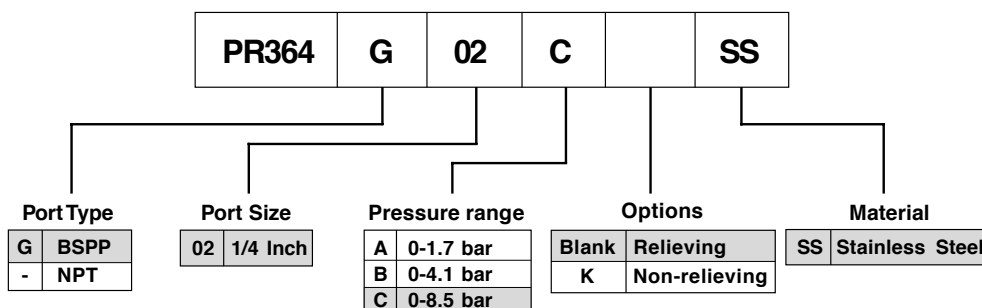
Port Size	BSPP	NPT
1/4"	<b>PR364G02CSS</b>	PR364-02CSS

Standard part numbers shown, for other models refer to ordering information below.

§ dm<sup>3</sup>/s = 7 bar inlet pressure with reduced pressure of 5.5 bar.

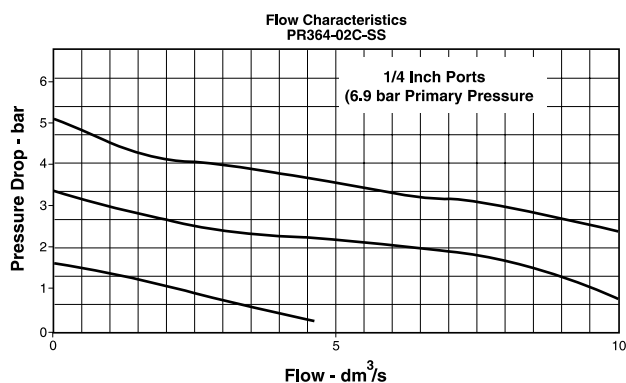
PR364 Regulator Dimensions		
A	C	D
40mm	65mm	13mm
E		
78mm		

### Ordering Information



NOTE: Shaded items are standard.

### Technical Information



### Specifications

Gauge Port ..... 1/4 Inch  
 Operation ..... Fluorocarbon Diaphragm  
 Port Threads ..... 1/4 Inch  
 Pressure & Temperature Ratings – 20.7 bar (300 PSIG Max)  
 4°C to 66°C (40°F to 150°F)  
 Weight ..... 230g

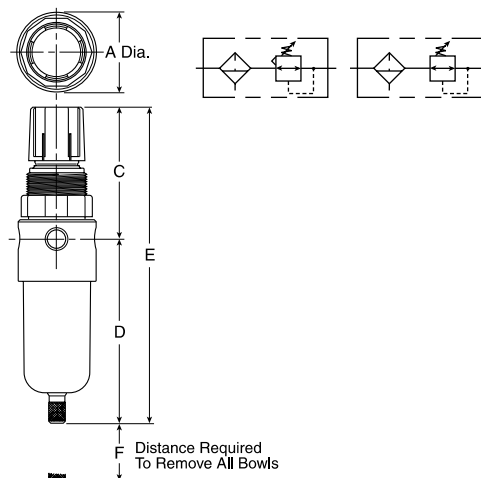
### Materials of Construction

Adjustment Mechanism / Springs ..... 316 Stainless Steel  
 Body ..... 316 Stainless Steel  
 Bottom Plug ..... 316 Stainless Steel  
 Poppet ..... 316 Stainless Steel  
 Bonnet ..... Acetal  
 Seals ..... Fluorocarbon  
 Knob ..... Polypropylene

## Filter/Regulator - 1/4" Miniature

### Features

- Stainless Steel Construction handles most corrosive environments.
- Large diaphragm to valve area ratio for precise regulation and high flow capacity.
- Meets NACE specifications.
- High Flow: 1/4" – 5.75 dm<sup>3</sup>/s



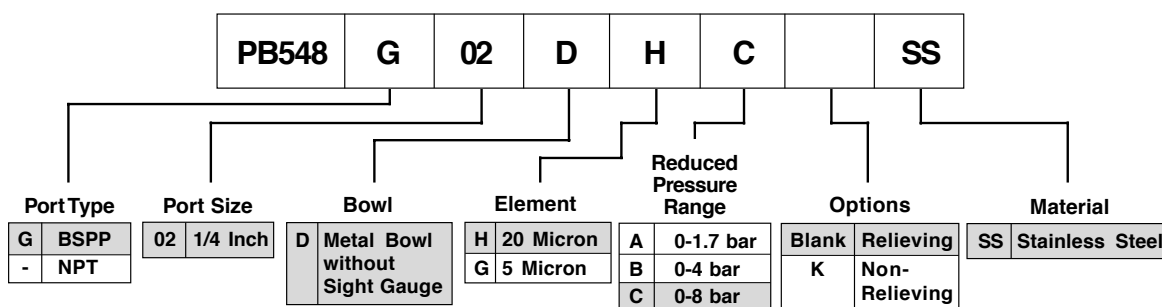
Port Size	BSPP	NPT
1/4"	<b>PB548G02DHCSS</b>	PB548-02DHCSS

Standard part numbers shown, for other models refer to ordering information below.

§ dm<sup>3</sup>/s = 7 bar inlet pressure with reduced pressure of 5.5 bar.

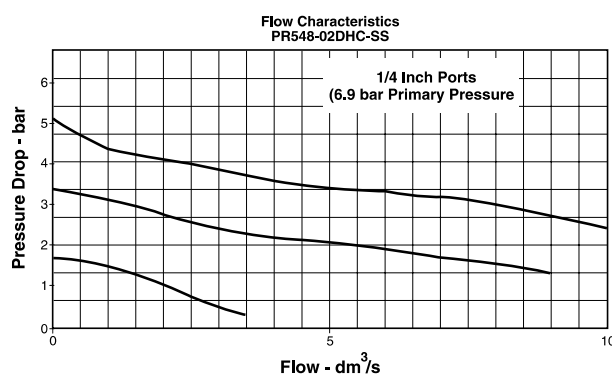
PB548 Filter/Reg Dimensions		
A	C	D
40mm	67mm	92mm
E	F	
159mm	40mm	

### Ordering Information



NOTE: Shaded items are standard.

### Technical Information



### Specifications

Bowl Capacity	29 cm <sup>3</sup>
Filter Rating	20 Micron
Gauge Port	1/4 Inch
Operation	Fluorocarbon Diaphragm
Port Threads	1/4 Inch
Pressure & Temperature Ratings –	20.7 bar (300 PSIG Max) 4°C to 66°C (40°F to 150°F)
Sump Capacity	12 cm <sup>3</sup>
Weight	270g

### Materials of Construction

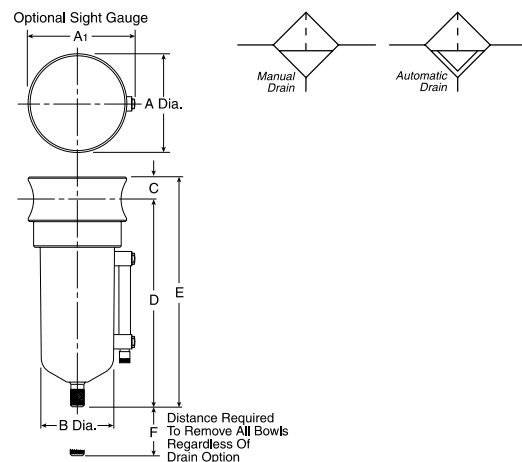
Adjustment Mechanism / Springs	316 Stainless Steel
Body	316 Stainless Steel
Bottom Plug	316 Stainless Steel
Poppet	316 Stainless Steel
Bonnet	Acetal
Seals	Fluorocarbon
Knob	Polypropylene



## Filter - 1/2" Standard

### Features

- Stainless Steel Construction handles most corrosive environments.
- Meets NACE specifications.
- High Flow: 1/2" – 34 dm<sup>3</sup>/s



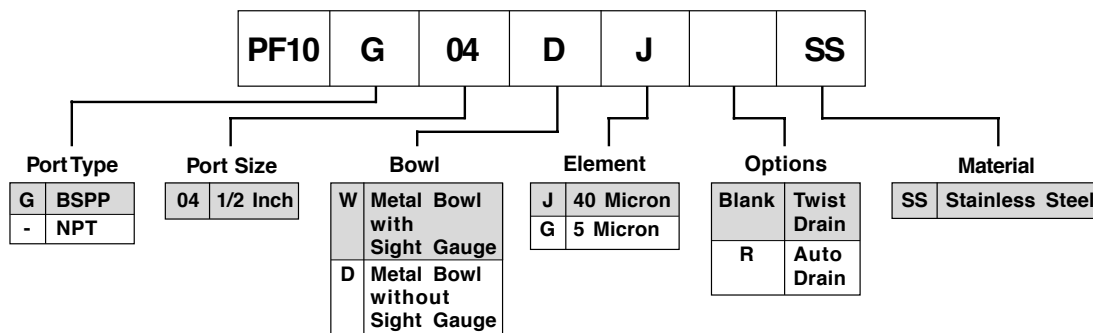
Port Size	BSPP		NPT	
	Manual Drain	Auto Float Drain	Manual Drain	Auto Float Drain
1/2"	<b>PF10G04WJSS</b>	<b>PF10G04WJRSS</b>	PF10-04WJSS	PF10-04WJRSS

Standard part numbers shown, for other models refer to ordering information below.

§ dm<sup>3</sup>/s = flow at 6.2 bar and 0.3 bar pressure drop.

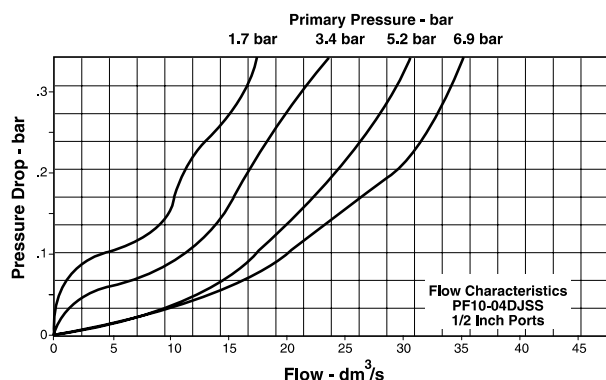
PF10 Filter Dimensions		
<b>A</b>	<b>A<sub>1</sub></b>	<b>B</b>
60mm	64mm	44 mm
<b>C</b>	<b>D</b>	<b>E</b>
14mm	127mm	141mm
<b>F</b>		
54mm		

### Ordering Information



NOTE: Shaded items are standard.

### Technical Information



### Specifications

Bowl Capacity	118 cm <sup>3</sup>
Filter Rating	40 Micron
Sump Capacity	50 cm <sup>3</sup>
Port Threads	1/2 Inch
<b>Pressure &amp; Temperature Ratings –</b>	
Manual Drain	0 to 20.7 bar (0 to 300 PSIG) 4°C to 82°C (40°F to 180°F)
Automatic Drain	1 to 12 bar (15 to 175 PSIG) 4°C to 49°C (40°F to 120°F)
Weight	850g

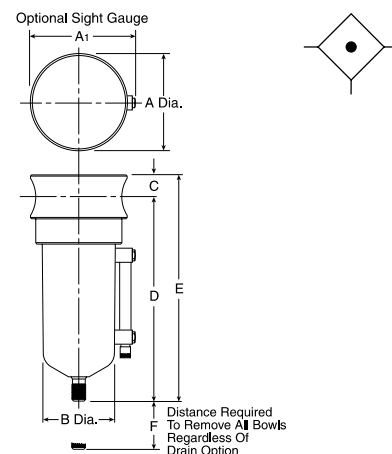
### Materials of Construction

Body	316 Stainless Steel
Bowls	316 Stainless Steel
Drain	316 Stainless Steel
Filter Element	Polyethylene
Element Holder	Acetal
Seals	Fluorocarbon
Deflector	Acetal
Sight Glass	ISOPlast 301 Polyurethane

## Coalescing Filter - 1/2" Standard

### Features

- Stainless Steel Construction handles most corrosive environments.
- Meets NACE specifications.
- High Flow: 1/2" – 21 dm<sup>3</sup>/s



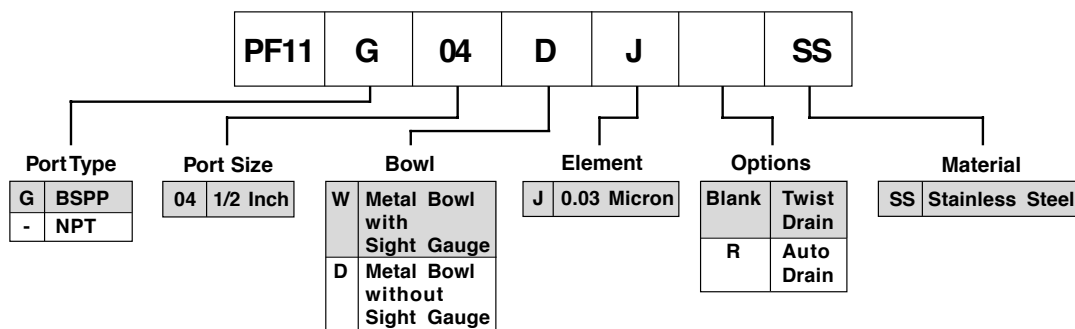
Port Size	BSPP	NPT
	Manual Drain	Manual Drain
1/2"	<b>PF11G04WJSS</b>	PF11-04WJSS

Standard part numbers shown, for other models refer to ordering information below.

\$ dm<sup>3</sup>/s = flow at 6.2 bar and 0.3 bar pressure drop.

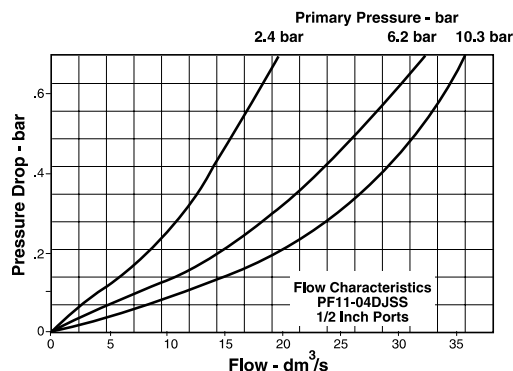
PF11 Filter Dimensions		
<b>A</b>	<b>A<sub>1</sub></b>	<b>B</b>
60mm	64mm	44 mm
<b>C</b>	<b>D</b>	<b>E</b>
14mm	127mm	141mm
<b>F</b>		
54mm		

### Ordering Information



NOTE: Shaded items are standard.

### Technical Information



### Specifications

Bowl Capacity .....	118 cm <sup>3</sup>
Filter Rating .....	0.01 Micron
Sump Capacity .....	50 cm <sup>3</sup>
Port Threads .....	1/2 Inch
<b>Pressure &amp; Temperature Ratings –</b>	
Manual Drain – 0 to 20.7 bar (0 to 300 PSIG)	
4°C to 82°C (40°F to 180°F)	
Automatic Drain – 1 to 12 bar (15 to 175 PSIG)	
4°C to 49°C (40°F to 120°F)	
Weight .....	850g

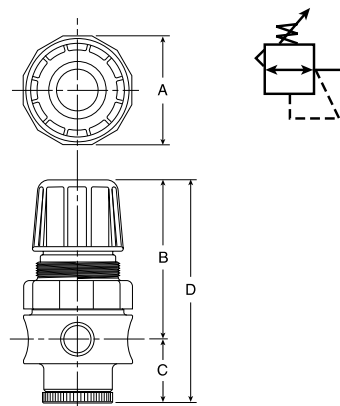
### Materials of Construction

Body .....	316 Stainless Steel
Bowls .....	316 Stainless Steel
Drain .....	316 Stainless Steel
Filter Element .....	Borosilicate Fiber
Element Holder .....	Acetal
Seals .....	Fluorocarbon
Sight Glass .....	ISOPlast 301 Polyurethane

## Regulator - 1/2" Standard

### Features

- Stainless Steel Construction handles most corrosive environments.
- Large diaphragm to valve area ratio for precise regulation and high flow capacity.
- Meets NACE specifications.
- High Flow: 1/2" – 38 dm<sup>3</sup>/s



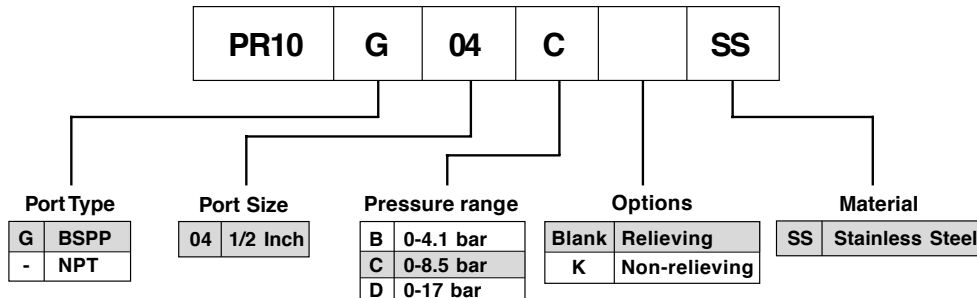
Port Size	BSPP	NPT
1/2"	<b>PR10G04CSS</b>	PR10-04CSS

PR10 Regulator Dimensions			
A	B	C	D
60mm	91mm	35mm	126mm

Standard part numbers shown, for other models refer to ordering information below.

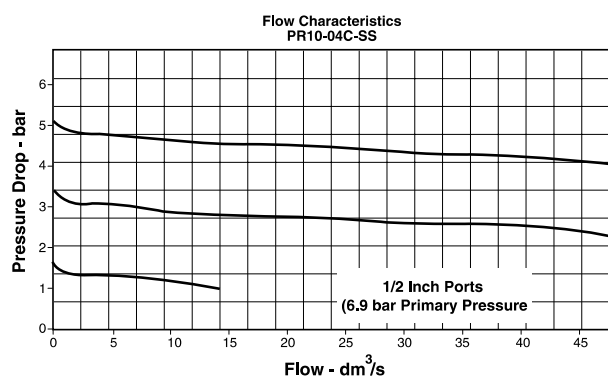
§ dm<sup>3</sup>/s = 7 bar inlet pressure with reduced pressure of 5.5 bar.

### Ordering Information



NOTE: Shaded items are standard.

### Technical Information



### Specifications

Gauge Port	1/4 Inch
Operation	Fluorocarbon Diaphragm
Port Threads	1/2 Inch
Pressure & Temperature Ratings	20.9 bar (300 PSIG Max) 4°C to 66°C (40°F to 150°F)
Weight	810g

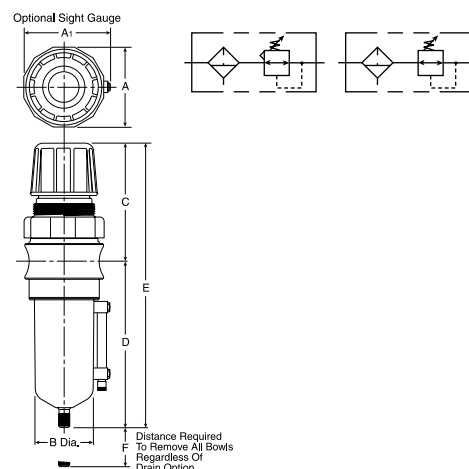
### Materials of Construction

Adjustment Mechanism / Springs	316 Stainless Steel
Body	316 Stainless Steel
Bottom Plug	316 Stainless Steel
Poppet	316 Stainless Steel
Bonnet / Knob	Acetal
Seals	Fluorocarbon

## Filter/Regulator - 1/2" Standard

### Features

- Stainless Steel Construction handles most corrosive environments.
- Large diaphragm to valve area ratio for precise regulation and high flow capacity.
- Meets NACE specifications.
- High Flow: 1/2" – 34 dm<sup>3</sup>/s



Port Size	BSPP	NPT
1/4"	PB11G04WJCSS	PB11-04WJCSS

Standard part numbers shown, for other models refer to ordering information below.

§ dm<sup>3</sup>/s = 7 bar inlet pressure with reduced pressure of 5.5 bar.

PF11 Filter/Reg Dimensions		
A	A <sub>1</sub>	B
60mm	64mm	44 mm
C	D	E
91mm	127mm	218mm
F		
54mm		

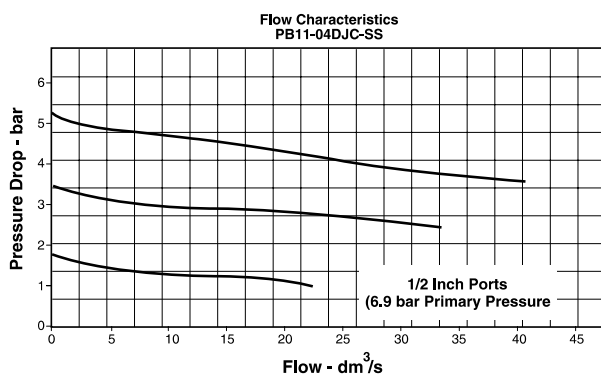
### Ordering Information

Port Type		Port Size	Bowl		Element		Reduced Pressure Range	Options		Material		
G	BSPP	04 1/2 Inch	W	Metal Bowl with Sight Gauge	J	40 Micron	B	0-4 bar	Blank	Relieving/ Twist drain	SS	Stainless Steel
-	NPT		D	Metal Bowl without Sight Gauge	G	5 Micron	C	0-8 bar	K	Non-Relieving /Twist Drain		
						D	0-17 bar	R	Relieving /Auto Drain			
								KR	Non-Relieving /Auto Drain			

E: Shaded items are standard.

NOTE: Shaded items are standard.

### Technical Information



### Specifications

Bowl Capacity	118 cm <sup>3</sup>
Filter Rating	40 Micron
Gauge Port	1/4 Inch
Operation	Fluorocarbon Diaphragm
Port Threads	1/2 Inch
Pressure & Temperature Ratings – 20.7 bar (300 PSIG Max)	
	4°C to 66°C (40°F to 150°F)
Sump Capacity	50 cm <sup>3</sup>
Weight	1.09 kg

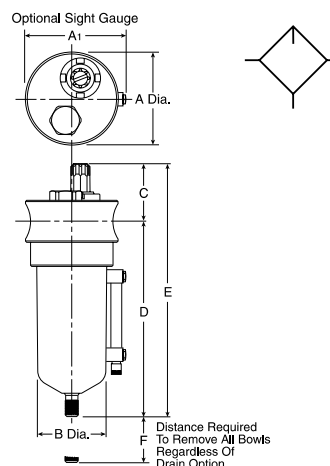
### Materials of Construction

Adjustment Mechanism / Springs	316 Stainless Steel
Body	316 Stainless Steel
Bottom Plug	316 Stainless Steel
Poppet	316 Stainless Steel
Bonnet / Knob	Acetal
Seals	Fluorocarbon
Sight Glass	ISOPlast 301 Polyurethane

## Lubricator - 1/2" Standard

### Features

- Stainless Steel Construction handles most corrosive environments.
- Meets NACE specifications.
- High Flow: 1/2" – 47 dm<sup>3</sup>/s



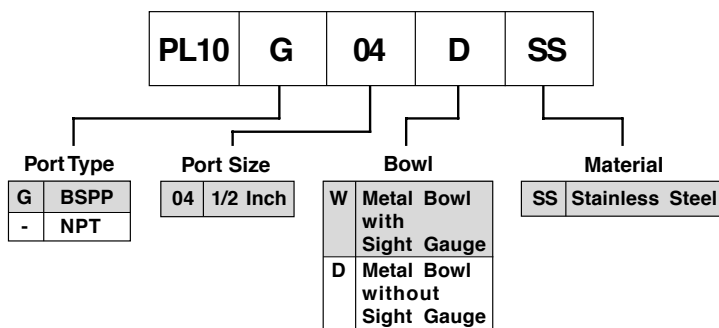
Port Size	BSPP	NPT
1/2"	PL10G04WSS	PL10-04WSS

Standard part numbers shown, for other models refer to ordering information below.

§ dm<sup>3</sup>/s = flow at 6.2 bar and 0.3 bar pressure drop.

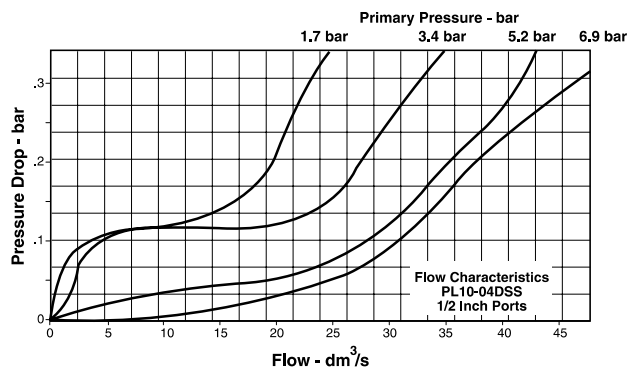
PL10 Lubricator Dimensions		
A	A <sub>1</sub>	B
60mm	64mm	44 mm
C	D	E
46mm	127mm	173mm
F		
89mm		

### Ordering Information



NOTE: Shaded items are standard.

### Technical Information





### Specifications

Bowl Capacity	118 cm <sup>3</sup>
Port Threads	1/2 Inch
Pressure & Temperature Ratings –	
Manual Drain	0 to 20.7 bar (0 to 300 PSIG)
	4°C to 82°C (40°F to 180°F)
Weight	850g

### Materials of Construction

Body	316 Stainless Steel
Bowl	316 Stainless Steel
Dip Tube	316 Stainless Steel
Drain	316 Stainless Steel
Fill Plug	316 Stainless Steel
Seals	Fluorocarbon
Sight Dome	Nylon
Sight Gauge	Polyurethane
Sight Glass	ISOPlast 301 Polyurethane

## Accessories & Replacement Kits

		Series	
		Miniature	Standard
<b>Stainless Steel Pressure Gauge</b> (0 - 10 bar)		M1/4G40S-10	M1/4G40S-10
<b>316 Stainless Steel Pipe nipple fittings</b> 1/4 NPT 1/4 BSPT 1/2 NPT 1/2 BSPT		616Y28-SS AC-2SS - -	- - 616A28-SS AC-4SS
316 Stainless Steel Mounting Nut		PR05X51SS	PR10X51SS
<b>Filter Element Kits</b> 5. Micron 20 Micron 40 Micron 0.03 Micron 0.01 Micron		PEK504VY PEK504Y - PEKF501H -	PEK55G - PEKF55J - PEKF71
Manual Drain Kit Automatic Drain Kit		PSA600Y7-1SS -	PSA600Y7-1SS PSA602MDSS
<b>Regulator Service Kit</b> Relieving Non-Relieving		PRKR364YSS PRK364KYSS	PRKR10YSS PRKR10KYSS
<b>Combined Filter/Regulator Element Kit</b> 5 Micron 20 Micron 40 Micron		PEK504VY PEK504Y -	PEKF10VY - PEKF10Y
<b>Filter Regulator Service Kit</b> Relieving Non-Relieving		PRK549YSS PRK548YSS	PRKR10YSS PRKR10KYSS





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## Moduflex modular air preparation system

The Moduflex modular air preparation system is constructed out of aluminium for the added advantages of both lightweight and strength.

The unique 'Cliplok' fastener enables combinations of units to be built in a fraction of the time taken by more traditional systems.

Combinations may be assembled quickly and easily, the individual units combine face to face with no intermediate block and ..... No increase in overall dimension.

### Typical Combination Assembly



Manual, semi-automatic and fully automatic drain options are available, recessed into the base plate for extra safety & protection from damage.

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## Moduflex modular air preparation system

### Cliplok Mounting System

The unique 'Cliplok' allows units to be connected together, without the use of pipe connectors, saving space whilst providing constant mounting centres. The 'Cliploks' slide into the units from the front and rear and are locked in place by the overstrap.

For wall mounting 'Cliploks' with integral wall brackets are available. They are assembled and locked in exactly the same way.

Wall mounted 'Cliploks' can be left attached to the wall and the unit will slide off, once the overstrap has been lifted.



'Cliploks' locate and fix units in combination, allowing easy removal for servicing with no width penalty.

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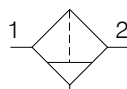
## Moduflex modular air preparation system

## P3H Series

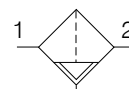
## Standard Filter



## Symbols



Manual drain



Semi auto drain

- Integral 1/8 or 1/4 ports (BSPP & NPT)
- High efficiency 5 micron element as standard
- Excellent water removal efficiency
- Robust but lightweight aluminium construction
- One hand operation for easy element cartridge removal
- Positive bayonet latch to ensure correct & safe fitting
- No small easily lost parts
- No tools required for servicing

**Options:**

P3	H	F	A						N	
		BSP (G)		1	1/8	1	5 Micron Element Standard	E	Manual Drain	SM
		NPT		9	1/4	2	40 Micron Element Optional	G	Semi Auto Drain	SS

Port size	Description	Order Code	Flow l/s *	Max bar	Min temp °C	Max temp °C	Bowl size cm <sup>3</sup>	Height mm	Width mm	Depth mm	Weight g
G1/8	Manual drain	<b>P3HFA11ESMN</b>	15	17	-20	+80	10	145	40	40	274
G1/8	Semi auto drain	<b>P3HFA11ESSN</b>	15	17	-20	+80	10	145	40	40	274
G1/4	Manual drain	<b>P3HFA12ESMN</b>	18	17	-20	+80	10	145	40	40	274
G1/4	Semi auto drain	<b>P3HFA12ESSN</b>	18	17	-20	+80	10	145	40	40	274

\* flow with 6,3 bar inlet pressure and 0,5 pressure drop.

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## Moduflex modular air preparation system

## P3H Series

### Technical Information

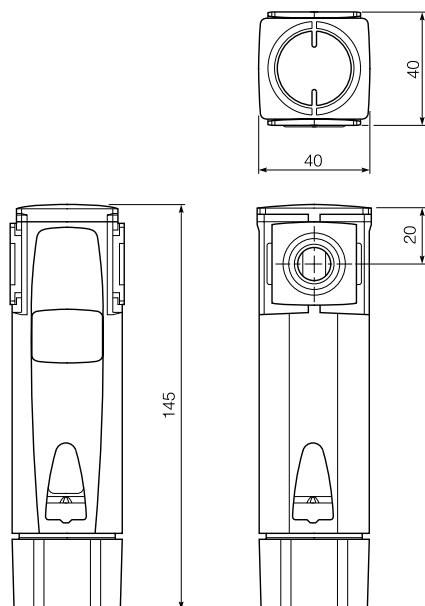
Fluid:	Compressed air
Maximum inlet pressure*:	17 bar Manual or Semi auto
Temperature range*:	-20°C to +80°C
Particle removal:	5 micron
Air quality:	Within ISO 8573-1, Class 3 and 5 (particulates)
Typical flow with 5µm element 6,3 bar inlet pressure and 0.5 bar pressure drop:	18 l/s
Manual drain:	twist grip open and barbed connection
Semi-auto drain: 0,2 bar @ min flow of 0,4 l/s bowl pressure to close drain	with barbed connection
Bowl sump capacity:	10 cm <sup>3</sup>

\* Air supply must be dry enough to avoid ice formation at temperatures below +2°C

### Material Specification

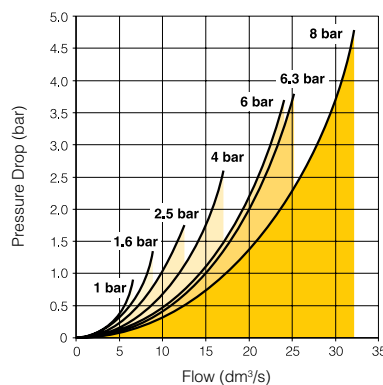
Body:	Aluminium
Sight glass:	Technopolymer
Body cover:	Polyester
Element:	Sintered polypropylene
Elastomers:	Nitrile NBR
Bayonet support:	Nylon
Drain:	Acetal

### Dimensions (mm)

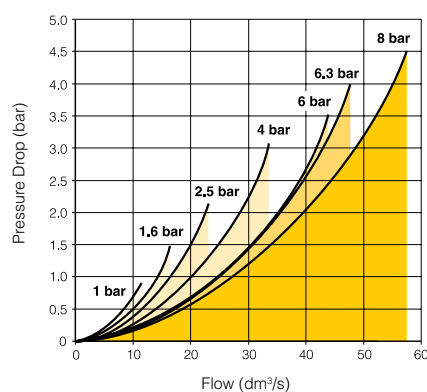


### Flow characteristics

#### (1/8) 5 Micron Filter



#### (1/4) 5 Micron Filter



### Service kits

Description	Order code
5 micron element kit	<b>P3HKA00ESE</b>
40 micron element kit	<b>P3HKA00ESG</b>
Sight glass & manual drain kit	<b>P3HKA00BSM</b>
Sight glass & semi-auto drain kit	<b>P3HKA00BSS</b>

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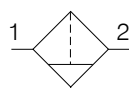
## Moduflex modular air preparation system

## P3K Series

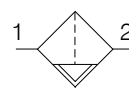
## Standard Filter



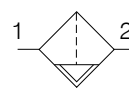
## Symbols



Manual drain



Semi auto drain



Auto drain

- Integral 3/8 or 1/2 ports (BSPP & NPT)
- High efficiency 5 micron element as standard
- Excellent water removal efficiency
- Robust but lightweight aluminium construction
- One hand operation for easy element cartridge removal
- Positive bayonet latch to ensure correct & safe fitting
- No small easily lost parts
- No tools required for servicing

**Options:**

<b>P3</b>	<b>K</b>	<b>F</b>	<b>A</b>					<b>N</b>
BSPP (G)		<b>1</b>	3/8		<b>3</b>	5 Micron Element Standard		<b>E</b>
NPT		<b>9</b>	1/2		<b>4</b>	40 Micron Element Optional		<b>G</b>
Manual Drain						Semi Auto Drain		<b>SS</b>
Auto Drain						Auto Drain		<b>SA</b>

Port size	Description	Order Code	Flow l/s *	Max bar	Min temp °C	Max temp °C	Bowl size cm³	Height mm	Width mm	Depth mm	Weight g
3/8	Manual drain	P3KFA13ESMN	45	17	-20	80	48	194	60	60	660
3/8	Semi auto drain	P3KFA13ESSN	45	17	-20	80	48	194	60	60	650
3/8	Auto drain	P3KFA13ESAN	45	17	-20	80	48	194	60	60	680
1/2	Manual drain	P3KFA14ESMN	50	17	-20	80	48	194	60	60	650
1/2	Semi auto drain	P3KFA14ESSN	50	17	-20	80	48	194	60	60	650
1/2	Auto drain	P3KFA14ESAN	50	17	-20	80	48	194	60	60	670

\* flow with 6,3 bar inlet pressure and 0,5 pressure drop.

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## Moduflex modular air preparation system

## P3K Series

### Technical Information

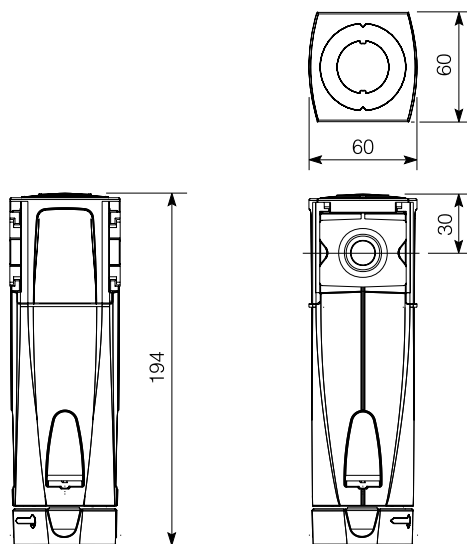
Fluid:	Compressed air
Maximum inlet pressure*:	17 bar
Temperature range*:	-20°C to +80°C
Particle removal:	5 micron and 40 micron
Air quality:	Within ISO 8573-1, Class 3 and 5 (particulates)
Typical flow with 5µm element 6,3 bar inlet pressure and 0.5 bar pressure drop:	50 l/s
Manual drain:	twist grip open and barbed connection
Semi-auto drain: 0,2 bar @ min flow of 0,4 l/s bowl pressure to close drain	with barbed connection
Auto drain:	
bowl pressure to close drain	1 bar
Operating range	1 to 17 bar
manual override facility (depress pin) barbed connection.	
Bowl sump capacity:	48 cm <sup>3</sup>

\* Air supply must be dry enough to avoid ice formation at temperatures below +2°C

### Material Specification

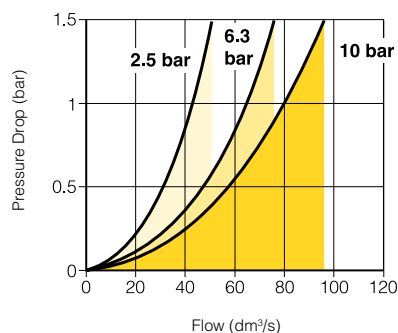
Body:	Aluminium
Sight glass:	Technopolymer
Body cover:	Polyester
Element:	Sintered polypropylene
Elastomers:	Nitrile NBR
Bayonet support:	Acetal
Drain:	Acetal

### Dimensions (mm)

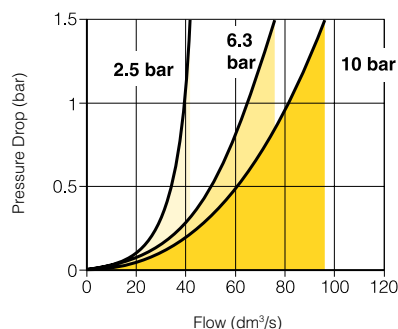


### Flow characteristics

#### (3/8) 5 Micron Filter



#### (1/2) 5 Micron Filter



### Service kits

Description	Order code
5 micron element kit	P3KKA00ESE
40 micron element kit	P3KKA00ESG
Sight glass & manual drain kit	P3KKA00BSM
Sight glass & semi-auto drain kit	P3KKA00BSS
Sight glass & auto drain kit	P3KKA00BSA

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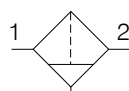
## Moduflex modular air preparation system

## P3M Series

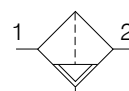
## Standard Filter



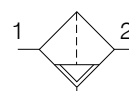
## Symbols



Manual drain



Semi auto drain



Auto drain

- Integral 1/2, 3/4 or 1" ports (BSP & NPT)
- High efficiency 5 micron element as standard
- Excellent water removal efficiency
- Robust but lightweight aluminium construction
- One hand operation for easy element cartridge removal
- Positive bayonet latch to ensure correct & safe fitting
- No small easily lost parts
- No tools required for servicing

**Options:**

Diagram illustrating the 10-position terminal block layout for the 1000 Series. The positions are labeled P3, M, F, A, and an unlabeled position. The connections are:

- P3: BSPP (G) 1, NPT 9
- M: 1/2 4, 3/4 6, 1" 8
- F: 5 Micron Element Standard, E
- A: Manual Drain SM, Semi Auto Drain SS, Auto Drain SA
- Unlabeled position: Manual Drain SM, Semi Auto Drain SS, Auto Drain SA

Port size	Description	Order Code	Flow l/s *	Max bar	Min temp °C	Max temp °C	Bowl size cm <sup>3</sup>	Height mm	Width mm	Depth mm	Weight g
1/2	Manual drain	<b>P3MFA14ESMN</b>	80	17	-20	80	100	255	80	80	1344
1/2	Semi auto drain	<b>P3MFA14ESSN</b>	80	17	-20	80	100	255	80	80	1334
1/2	Auto drain	<b>P3MFA14ESAN</b>	80	17	-20	80	100	255	80	80	1364
3/4	Manual drain	<b>P3MFA16ESMN</b>	101	17	-20	80	100	255	80	80	1320
3/4	Semi auto drain	<b>P3MFA16ESSN</b>	101	17	-20	80	100	255	80	80	1310
3/4	Auto drain	<b>P3MFA16ESAN</b>	101	17	-20	80	100	255	80	80	1340
1"	Manual drain	<b>P3MFA18ESMN</b>	105	17	-20	80	100	255	80	80	1280
1"	Semi auto drain	<b>P3MFA18ESSN</b>	105	17	-20	80	100	255	80	80	1270
1"	Auto drain	<b>P3MFA18ESAN</b>	105	17	-20	80	100	255	80	80	1300

\* flow with 6,3 bar inlet pressure and 0,5 pressure drop.



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## Moduflex modular air preparation system

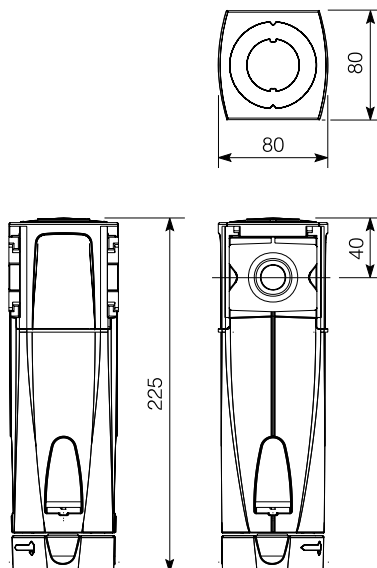
## P3M Series

### Technical Information

Fluid:	Compressed air
Maximum inlet pressure*:	17 bar
Temperature range*:	-20°C to +80°C
Particle removal:	5 micron
Air quality:	Within ISO 8573-1, Class 3
Typical flow with 5µm element 6,3 bar inlet pressure and 0.5 bar pressure drop:	105 l/s
Manual drain:	twist grip open and barbed connection
Semi-auto drain: 0,2 bar @ min flow of 0,4 l/s bowl pressure to close drain	with barbed connection
Auto drain:	
bowl pressure to close drain	1 bar
Operating range	1 to 17 bar
manual override facility (depress pin) barbed connection.	
Bowl sump capacity:	100 cm <sup>3</sup>

\* Air supply must be dry enough to avoid ice formation at temperatures below +2°C

### Dimensions (mm)



### Service kits

Description	Order code
5 micron element kit	P3MKA00ESE
Sight glass & manual drain kit	P3MKA00BSM
Sight glass & semi-auto drain kit	P3MKA00BSS
Sight glass & auto drain kit	P3MKA00BSA

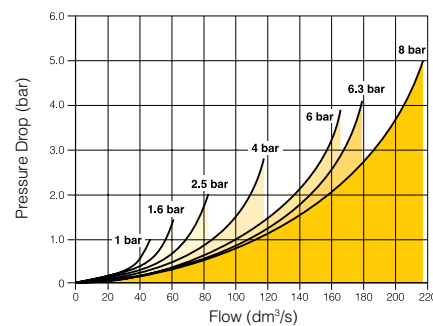


### Material Specification

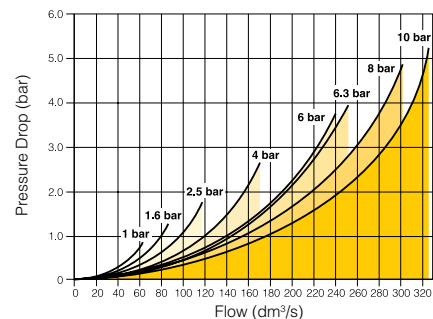
Body:	Aluminium
Sight glass:	Technopolymer
Body cover:	Polyester
Element:	Sintered polypropylene
Elastomers:	Nitrile NBR
Bayonet support:	Nylon
Drain:	Acetal

### Flow characteristics

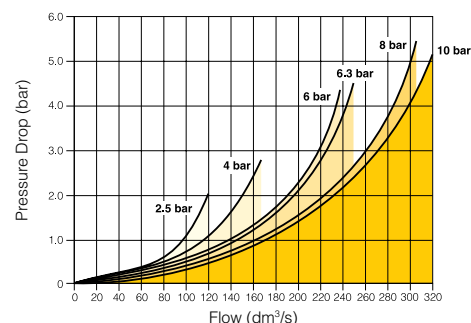
#### (1/2) 5 Micron Filter



#### (3/4) 5 Micron Filter



#### (1") 5 Micron Filter



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## Moduflex modular air preparation system

## P3H Series

### Coalescing Filters and Adsorbers



- Integral 1/8 or 1/4 ports (BSPP & NPT)
- Removes liquid aerosols and sub micron particles
- Oil free air for critical applications, such as air gauging, pneumatic instrumentation and control
- 0.01µm element as standard (coalescer)
- Differential Pressure Indicator (DPI) as standard on Coalescing Filters
- One hand operation for easy element cartridge removal
- Positive bayonet latch to ensure correct & safe fitting
- No tools required for servicing
- Adsorbing activated carbon element removes oil vapours and most hydrocarbons

**Note:** To optimise the life of coalescing element, it is advisable to install a P3HFA pre-filter with a 5 micron element upstream of the coalescing filter.

### Options:

<b>P3</b>	<b>H</b>	<b>F</b>	<b>A</b>						<b>N</b>
		BSPP (G)	<b>1</b>	1/8	<b>1</b>	Grade 0.01 element with PDI Standard	<b>D</b>	Manual Drain	<b>SM</b>
		NPT	<b>9</b>	1/4	<b>2</b>	Grade 0.01 element without PDI option	<b>C</b>	Semi Auto Drain	<b>SS</b>
						Adsorber element without PDI option	<b>A</b>		

Port size	Description	Order Code	Flow l/s *	Max bar	Min temp °C	Max temp °C	Bowl size cm³	Height mm	Width mm	Depth mm	Weight g
G1/8	Coalescing Filter, Manual drain	<b>P3HFA11DSMN</b>	3.5	17	-20	+66	10	157	40	40	274
G1/8	Coalescing Filter, Semi auto drain	<b>P3HFA11DSSN</b>	3.5	17	-20	+66	10	157	40	40	274
G1/4	Coalescing Filter, Manual drain	<b>P3HFA12DSMN</b>	4	17	-20	+66	10	157	40	40	274
G1/4	Coalescing Filter, Semi auto drain	<b>P3HFA12DSSN</b>	4	17	-20	+66	10	157	40	40	274
G1/8	Adsorber Filter, Manual drain	<b>P3HFA11ASMN</b>	6	17	-20	+50	10	145	40	40	269
G1/4	Adsorber Filter, Manual drain	<b>P3HFA12ASMN</b>	8	17	-20	+50	10	145	40	40	269

\* flow with 6,3 bar inlet pressure and 0,2 pressure drop.

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## Moduflex modular air preparation system

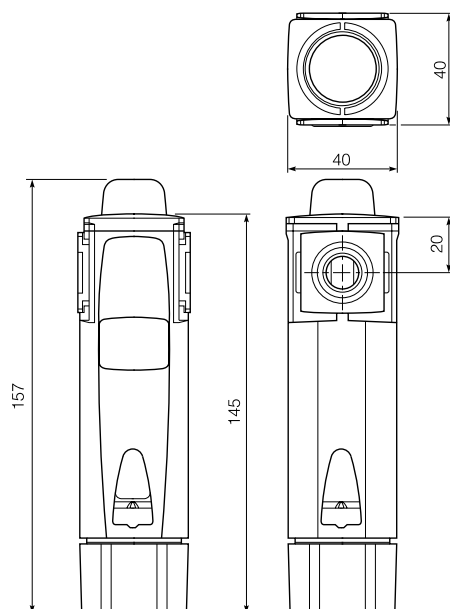
## P3H Series

### Technical Information

Fluid:	Compressed air
Maximum inlet pressure*:	17 bar
Temperature range*:	
Coalescing filter :	-20°C to +66°C
Adsorber filter :	-20°C to +50°C
Media specifications:	
Coalescing efficiency	(0.3 to 0.6 micron particles): 99.97%
Max. oil carryover (PPM w/w):	0.008
Typical flow with 0.01 micron element at 6,3 bar inlet pressure and 0.2 bar pressure drop:	Coalescer 4 l/s Adsorber 8 l/s
Manual drain:	twist grip open and barbed connection
Semi-auto drain: 0,2 bar @ min flow of 0,4 l/s bowl pressure to close drain	with barbed connection
Bowl sump capacity:	10 cm <sup>3</sup>

\* Air supply must be dry enough to avoid ice formation at temperatures below +2°C

### Dimensions (mm)



### Service kits

Description	Order code
0.01 micron coalescing element kit	<b>P3HKA00ESC</b>
Adsorber element kit	<b>P3HKA00ESA</b>
Sight glass & manual drain kit	<b>P3HKA00BSM</b>
Sight glass & semi-auto drain kit	<b>P3HKA00BSS</b>
Differential pressure indicator kit	<b>P3HKA00RQ</b>



### Material Specification

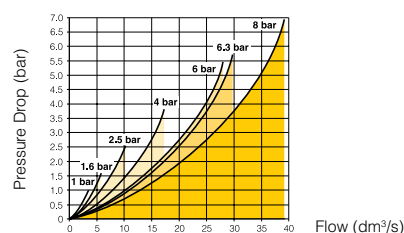
Body:	Aluminium
Sight glass:	Technopolymer
Filter cover:	Polyester
Coalescing element:	Borosilicate & felt glass fibres
Adsorber element:	Activated charcoal
Elastomers:	Nitrile NBR
Bayonet support:	Nylon
Drain:	Acetal

Differential pressure indicator materials:

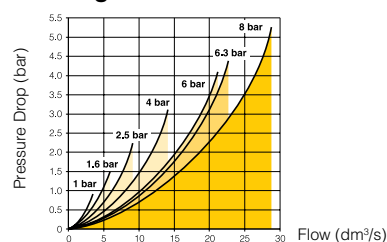
Body:	Technopolymer
Internal parts:	Acetal
Spring:	Stainless steel
Elastomers:	Nitrile NBR
Support plate	Aluminium
Screws	Steel / zinc plated

### Flow characteristics

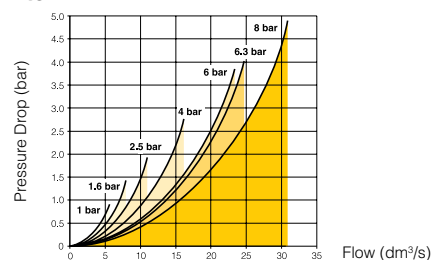
#### (1/8) 0.01µm Coalescing Filter



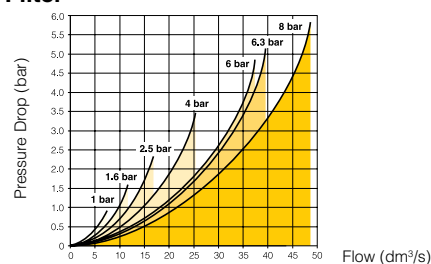
#### (1/4) 0.01µm Coalescing Filter



#### 1/8) Adsorber Filter



#### (1/4) Adsorber Filter



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## Moduflex modular air preparation system

## P3K Series

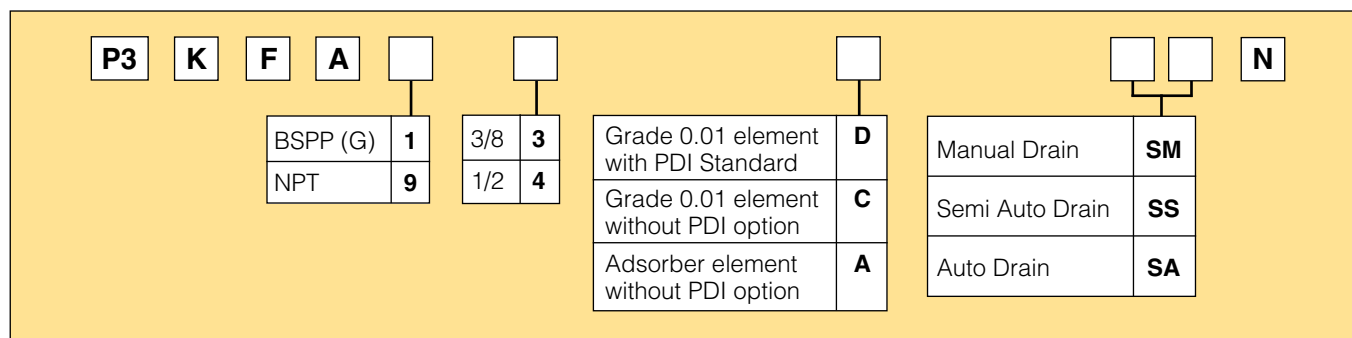
## Coalescing Filters and Adsorbers



- Integral 3/8 or 1/2 ports (BSP & NPT)
- Removes liquid aerosols and sub micron particles
- Oil free air for critical applications, such as air gauging, pneumatic instrumentation and control
- 0.01µm element as standard (coalescer)
- Differential Pressure Indicator (DPI) as standard on Coalescing Filters
- One hand operation for easy element cartridge removal
- Positive bayonet latch to ensure correct & safe fitting
- No tools required for servicing
- Adsorbing activated carbon element removes oil vapours and most hydrocarbons

**Note:** To optimise the life of coalescing element, it is advisable to install a P3KFA pre-filter with a 5 micron element upstream of the coalescing filter.

**Options:**



Port size	Description	Order Code	Flow l/s *	Max bar	Min temp °C	Max temp °C	Bowl size cm³	Height mm	Width mm	Depth mm	Weight g
3/8	Coalescing Filter, Manual drain	P3KFA13DSMN	15	17	-20	66	48	202	60	60	660
3/8	Coalescing Filter, Semi auto drain	P3KFA13DSSN	15	17	-20	66	48	202	60	60	660
3/8	Coalescing Filter, Auto drain	P3KFA13DSAN	15	17	-20	66	48	202	60	60	680
1/2	Coalescing Filter, Manual drain	P3KFA14DSMN	16	17	-20	66	48	202	60	60	650
1/2	Coalescing Filter, Semi auto drain	P3KFA14DSSN	16	17	-20	66	48	202	60	60	650
1/2	Coalescing Filter, Auto drain	P3KFA14DSAN	16	17	-20	66	48	202	60	60	670
3/8	Adsorber Filter, Manual drain	P3KFA13ASMN	21	17	-20	50	48	194	60	60	670
1/2	Adsorber Filter, Manual drain	P3KFA14ASMN	28	17	-20	50	48	194	60	60	660

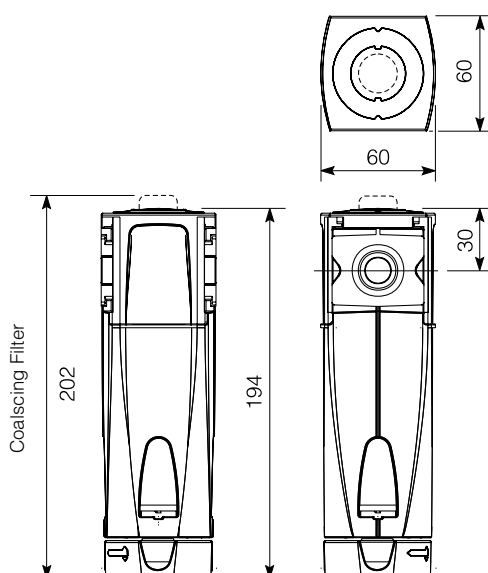
\* flow with 6,3 bar inlet pressure and 0,2 pressure drop.

PDE2501TCUK-ca

**Moduflex modular air preparation system**
**P3K Series**
**Technical Information**

Fluid:	Compressed air	
Maximum inlet pressure*:	17 bar	
Temperature range*:		
Coalescing filter :	-20°C to +66°C	
Adsorber filter :	-20°C to +50°C	
Media specifications:		
Coalescing efficiency	(0.3 to 0.6 micron particles): 99.97%	
Max. oil carryover (PPM w/w):	0.008	
Typical flow with 0.01 micron element at 6,3 bar inlet pressure and 0.2 bar pressure drop:	Coalescer	16 l/s
	Adsorber	28 l/s
Manual drain:	twist grip open and barbed connection	
Semi-auto drain:	with barbed connection	
0,2 bar @ min flow of 0,4 l/s bowl pressure to close drain		
Auto drain:		
bowl pressure to close drain	1 bar	
Operating range	1 to 17 bar	
manual override facility (depress pin) barbed connection.		
Bowl sump capacity:	48 cm <sup>3</sup>	

\* Air supply must be dry enough to avoid ice formation at temperatures below +2°C

**Dimensions (mm)**

**Service kits**

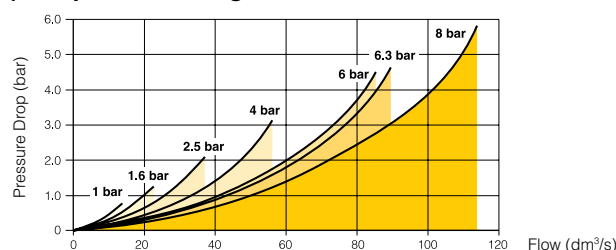
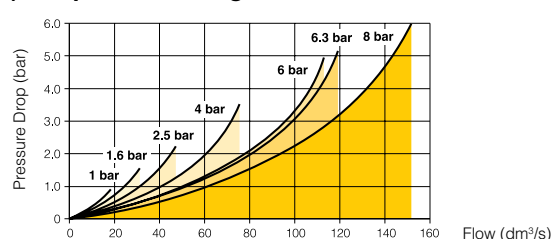
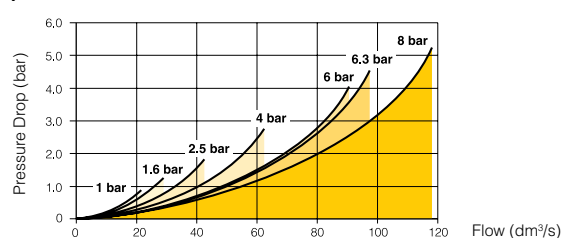
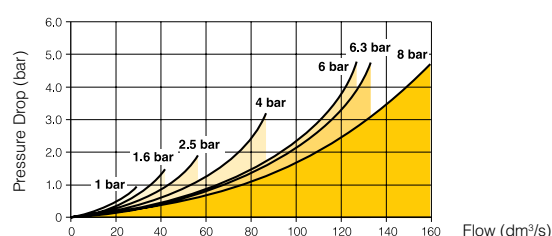
Description	Order code
0.01 micron coalescing element kit	<b>P3KKA00ESC</b>
Adsorber element kit	<b>P3KKA00ESA</b>
Sight glass & manual drain kit	<b>P3KKA00BSM</b>
Sight glass & semi-auto drain kit	<b>P3KKA00BSS</b>
Sight glass & auto drain kit	<b>P3KKA00BSA</b>
Differential pressure indicator kit	<b>P3KKA00RQ</b>

**Material Specification**

Body:	Aluminium
Sight glass:	Technopolymer
Filter cover:	Polyester
Coalescing element:	Borosilicate & felt glass fibres
Adsorber element:	Activated charcoal
Elastomers:	Nitrile NBR
Bayonet support:	Acetal
Drain:	Acetal

**Differential pressure indicator materials:**

Body:	Technopolymer
Internal parts:	Acetal
Spring:	Stainless steel
Elastomers:	Nitrile NBR
Support plate	Aluminium
Screws	Steel / zinc plated

**Flow characteristics**
**(3/8) 0.01µm Coalescing Filter**

**(1/2) 0.01µm Coalescing Filter**

**(3/8) Adsorber Filter**

**(1/2) Adsorber Filter**


PDE2501TCUK-ca

**Moduflex modular air preparation system**
**P3M Series**
**Coalescing Filters and Adsorbers**


- Integral 1/2, 3/4 or 1" ports (BSPP & NPT)
- Removes liquid aerosols and sub micron particles
- Oil free air for critical applications, such as air gauging, pneumatic instrumentation and control
- 0.01µm element as standard (coalescer)
- Differential Pressure Indicator (DPI) as standard on Coalescing Filters
- One hand operation for easy element cartridge removal
- Positive bayonet latch to ensure correct & safe fitting
- No tools required for servicing
- Adsorbing activated carbon element removes oil vapours and most hydrocarbons

**Note:** To optimise the life of coalescing element, it is advisable to install a P3MFA pre-filter with a 5 micron element upstream of the coalescing filter.

**Options:**

<b>P3</b>	<b>M</b>	<b>F</b>	<b>A</b>						<b>N</b>
		BSPP (G)	1	1/2	4	Grade 0.01 element with PDI Standard	<b>D</b>	Manual Drain	<b>SM</b>
		NPT	9	3/4	6	Grade 0.01 element without PDI option	<b>C</b>	Semi Auto Drain	<b>SS</b>
				1"	8	Adsorber element without PDI option	<b>A</b>	Auto Drain	<b>SA</b>

Port size	Description	Order Code	Flow l/s *	Max bar	Min temp °C	Max temp °C	Bowl size cm³	Height mm	Width mm	Depth mm	Weight g
1/2	Coalescing Filter, Manual drain	<b>P3MFA14DSMN</b>	44	17	-20	66	100	265	80	80	1440
1/2	Coalescing Filter, Semi auto drain	<b>P3MFA14DSSN</b>	44	17	-20	66	100	265	80	80	1430
1/2	Coalescing Filter, Auto drain	<b>P3MFA14DSAN</b>	44	17	-20	66	100	265	80	80	1460
3/4	Coalescing Filter, Manual drain	<b>P3MFA16DSMN</b>	57	17	-20	66	100	265	80	80	1420
3/4	Coalescing Filter, Semi auto drain	<b>P3MFA16DSSN</b>	57	17	-20	66	100	265	80	80	1410
3/4	Coalescing Filter, Auto drain	<b>P3MFA16DSAN</b>	57	17	-20	66	100	265	80	80	1440
1"	Coalescing Filter, Manual drain	<b>P3MFA18DSMN</b>	58	17	-20	66	100	265	80	80	1400
1"	Coalescing Filter, Semi auto drain	<b>P3MFA18DSSN</b>	58	17	-20	66	100	265	80	80	1400
1"	Coalescing Filter, Auto drain	<b>P3MFA18DSAN</b>	58	17	-20	66	100	265	80	80	1420
1/2	Adsorber Filter, Manual drain	<b>P3MFA14ASMN</b>	37	17	-20	50	100	255	80	80	1374
3/4	Adsorber Filter, Manual drain	<b>P3MFA16ASMN</b>	41	17	-20	50	100	255	80	80	1350
1"	Adsorber Filter, Manual drain	<b>P3MFA18ASMN</b>	42	17	-20	50	100	255	80	80	1312

\* flow with 6,3 bar inlet pressure and 0,2 pressure drop.

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## Moduflex modular air preparation system

## P3M Series

### Technical Information

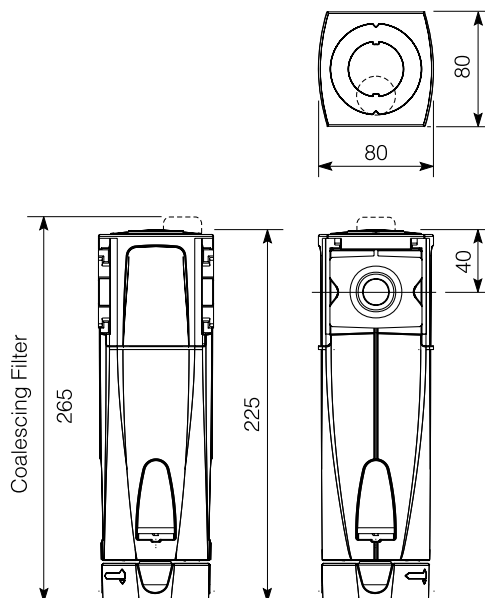
Fluid:	Compressed air
Maximum inlet pressure*:	17 bar
Temperature range*:	
Coalescing filter :	-20°C to +66°C
Adsorber filter :	-20°C to +50°C
Media specifications:	
Coalescing efficiency	(0.3 to 0.6 micron particles): 99.97%
Max. oil carryover (PPM w/w):	0.008
Typical flow with 0.01 micron element at 6,3 bar inlet pressure and 0.2 bar pressure drop:	Coalescer 57 l/s Adsorber 41 l/s
Manual drain:	twist grip open and barbed connection
Semi-auto drain:	with barbed connection
0,2 bar @ min flow of 0,4 l/s bowl pressure to close drain	
Auto drain:	
bowl pressure to close drain	1 bar
Operating range	1 to 17 bar
manual override facility (depress pin) barbed connection.	
Bowl sump capacity:	100 cm <sup>3</sup>

\* Air supply must be dry enough to avoid ice formation at temperatures below +2°C

### Material Specification

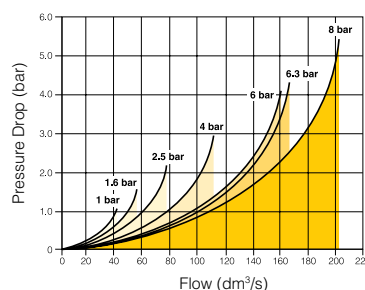
Body:	Aluminium
Sight glass:	Technopolymer
Filter cover:	Polyester
Coalescing element:	Borosilicate & felt glass fibres
Adsorber element:	Activated charcoal
Elastomers:	Nitrile NBR
Bayonet support:	Nylon
Drain:	Acetal
Differential pressure indicator materials:	
Body:	Technopolymer
Internal parts:	Acetal
Spring:	Stainless steel
Elastomers:	Nitrile NBR
Support plate	Aluminium
Screws	Steel / zinc plated

### Dimensions (mm)

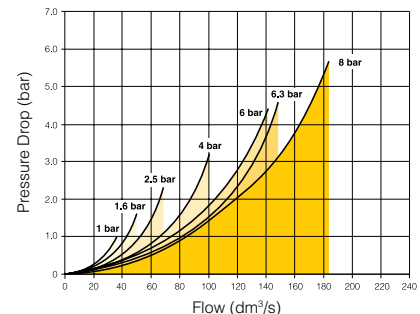


### Flow characteristics

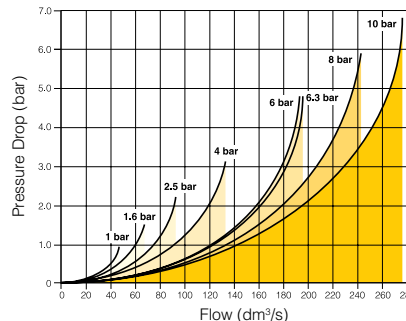
(1/2) 0.01µm Coalescing Filter



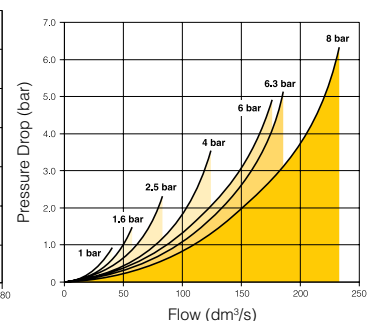
(1/2) Adsorber Filter



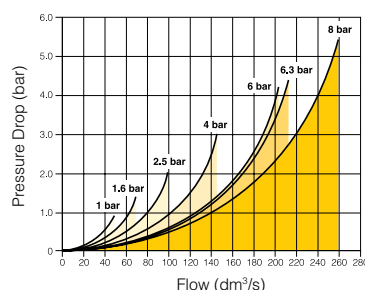
(3/4) 0.01µm Coalescing Filter



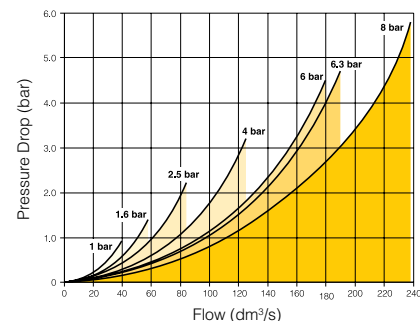
(3/4) Adsorber Filter



(1") 0.01µm Coalescing Filter



(1") Adsorber Filter



### Service kits

Description	Order code
0.01 micron coalescing element kit	P3MKA00ESC
Adsorber element kit	P3MKA00ESA
Sight glass & manual drain kit	P3MKA00BSM
Sight glass & semi-auto drain kit	P3MKA00BSS
Sight glass & auto drain kit	P3MKA00BSA
Differential pressure indicator kit	P3MKA00RQ



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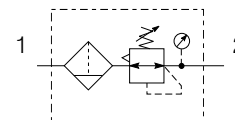
## Moduflex modular air preparation system

## P3H Series

## Filter/Regulator

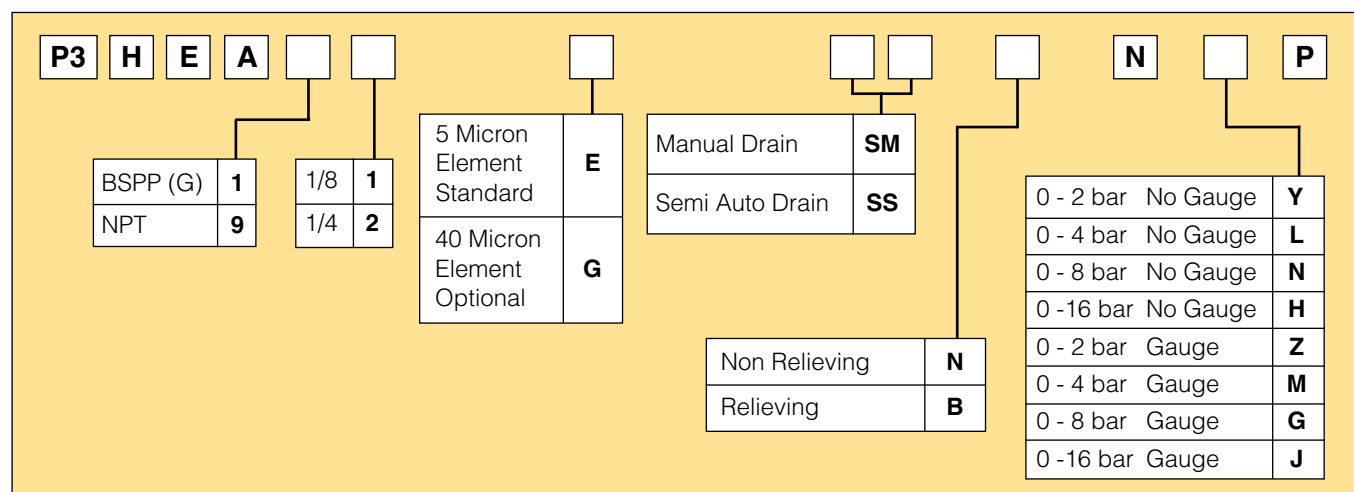


## Symbols



- Integral 1/8 or 1/4 ports (BSPP & NPT)
- High efficiency 5 micron element as standard
- Excellent water removal efficiency
- Robust but lightweight aluminium construction
- One hand operation for easy element cartridge removal
- Positive bayonet latch to ensure correct & safe fitting
- No tools required for servicing filter element
- Secondary pressure ranges 2, 4, 8 and 16 bar
- Rolling diaphragm for extended life
- Secondary aspiration plus balanced poppet provides quick response and accurate pressure regulation.

**Options:**



Port size	Description	Order Code	Flow l/s *	Max bar	Min temp °C	Max temp °C	Bowl size cm <sup>3</sup>	Height mm	Width mm	Depth mm	Weight g
G1/8	8 bar, relieving, manual drain	<b>P3HEA11ESMBNNP</b>	15	17	-20	+80	10	196	40	40	307
G1/8	8 bar, relieving, semi-auto drain	<b>P3HEA11ESSBNNP</b>	15	17	-20	+80	10	196	40	40	307
G1/8	8 bar, relieving, gauge, manual drain	<b>P3HEA11ESMBNGP</b>	15	17	-20	+80	10	196	40	40	307
G1/8	8 bar, relieving, gauge, semi-auto drain	<b>P3HEA11ESSBNGP</b>	15	17	-20	+80	10	196	40	40	307
G1/4	8 bar, relieving, manual drain	<b>P3HEA12ESMBNNP</b>	25	17	-20	+80	10	196	40	40	312
G1/4	8 bar, relieving, semi-auto drain	<b>P3HEA12ESSBNNP</b>	25	17	-20	+80	10	196	40	40	312
G1/4	8 bar, relieving, gauge, manual drain	<b>P3HEA12ESMBNGP</b>	25	17	-20	+80	10	196	40	40	312
G1/4	8 bar, relieving, gauge, semi-auto drain	<b>P3HEA12ESSBNGP</b>	25	17	-20	+80	10	196	40	40	312

\*flow with 10 bar inlet pressure, 6.3 bar set pressure and 1 bar pressure drop.

PDE2501TCUK-ca

## Moduflex modular air preparation system

## P3H Series

### Technical Information

Fluid:	Compressed air
Maximum inlet pressure*:	17 bar Manual or Semi auto
Temperature range*:	-20°C to +80°C
Particle removal:	5 micron and 40 micron
Air quality:	Within ISO 8573-1, Class 3 and 5 (particulates)
Typical flow with 10 bar inlet pressure 6,3 bar set pressure and 1 bar pressure drop 25l/s	
Manual drain:	twist grip open and barbed connection
Semi-auto drain: 0,2 bar @ min flow of 0,4 l/s bowl pressure to close drain	with barbed connection
Bowl sump capacity:	10 cm <sup>3</sup>
Gauge ports ( x 2 ):	1/8"

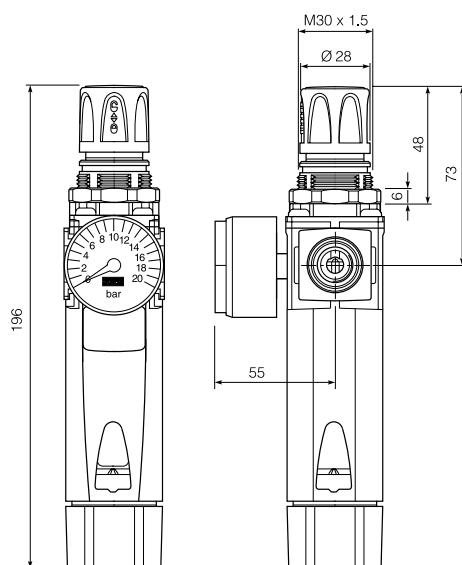
\* Air supply must be dry enough to avoid ice formation at temperatures below +2°C

### Material Specification

Body:	Aluminium
Sight glass:	Technopolymer
Body cover:	Polyester
Element:	Sintered polypropylene
Elastomers:	Nitrile NBR
Bayonet support:	Nylon
Drain:	Acetal
Bonnet:	Glass filled polyamide
Control knob:	Polyamide
Valve:	Composite
Screws:	Steel/ zinc plated

For Gauges: See page 77

### Dimensions (mm)

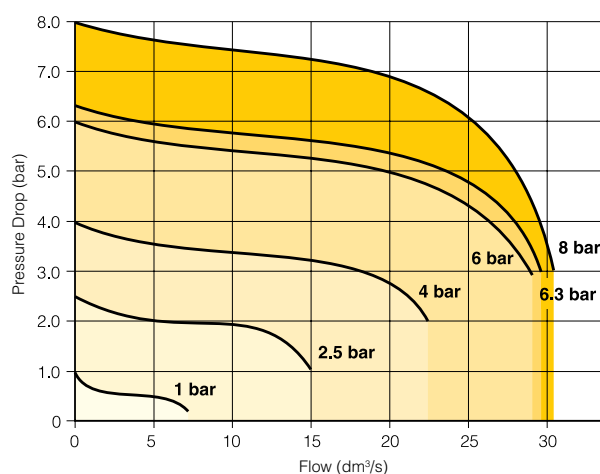


### Service kits

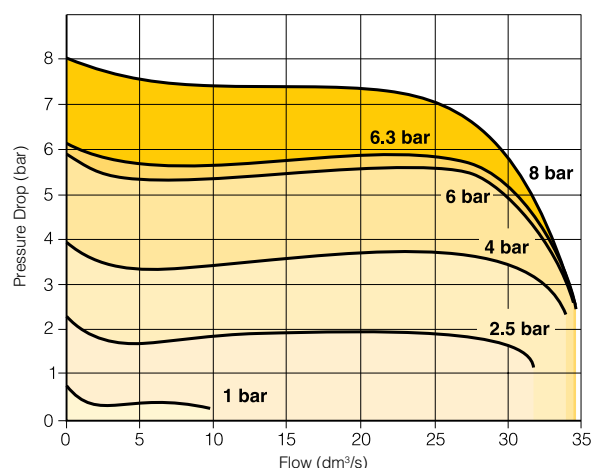
Description	Order code
5 micron element kit	P3HKA00ESE
40 micron element kit	P3HKA00ESG
Sight glass & manual drain kit	P3HKA00BSM
Sight glass & semi-auto drain kit	P3HKA00BSS
Diaphragm kit (relieving type)	P3HKA00RR
Diaphragm kit (non-relieving type)	P3HKA00RN
Angle bracket + metal lock ring	P3HKA00MS
Angle bracket + plastic lock ring	P3HKA00MR
Panel mount nut (aluminium)	P3HKA00MM
Lockable tamperproof kit	P3HKA00AL
	P3HKA00AT

### Flow characteristics

#### Regulation characteristics: (1/8) 5 micron

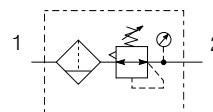


#### Regulation characteristics: (1/4) 5 micron

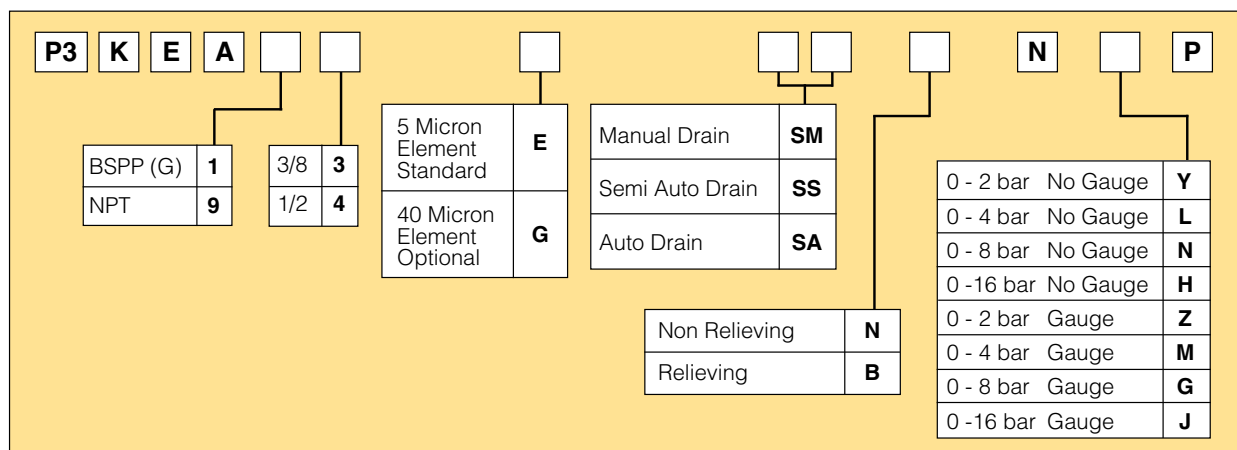


PDE2501TCUK-ca

**Moduflex modular air preparation system**
**P3K Series**
**Filter/Regulator**

**Symbols**


- Integral 3/8 or 1/2 ports (BSPP & NPT)
- High efficiency 5 micron element as standard
- Excellent water removal efficiency
- Robust but lightweight aluminium construction
- One hand operation for easy element cartridge removal
- Positive bayonet latch to ensure correct & safe fitting
- No tools required for servicing filter element
- Secondary pressure ranges 2, 4, 8 and 16 bar
- Rolling diaphragm for extended life
- Secondary aspiration plus balanced poppet provides quick response and accurate pressure regulation.

**Options:**


Port size	Description	Order Code	Flow l/s *	Max bar	Min temp °C	Max temp °C	Bowl size cm <sup>3</sup>	Height mm	Width mm	Depth mm	Weight g
3/8	8 bar, relieving, manual drain	<b>P3KEA13ESMBNNP</b>	48	17	-20	80	48	267	60	60	845
3/8	8 bar, relieving, semi-auto drain	<b>P3KEA13ESSBNNP</b>	48	17	-20	80	48	267	60	60	840
3/8	8 bar, relieving, auto drain	<b>P3KEA13ESABNNP</b>	48	17	-20	80	48	267	60	60	865
3/8	8 bar, relieving, gauge, manual drain	<b>P3KEA13ESMBNGP</b>	48	17	-20	80	48	267	60	97	920
3/8	8 bar, relieving, gauge, semi-auto drain	<b>P3KEA13ESSBNGP</b>	48	17	-20	80	48	267	60	97	925
3/8	8 bar, relieving, gauge, auto drain	<b>P3KEA13ESABNGP</b>	48	17	-20	80	48	267	60	97	940
1/2	8 bar, relieving, manual drain	<b>P3KEA14ESMBNNP</b>	61	17	-20	80	48	267	60	60	855
1/2	8 bar, relieving, semi-auto drain	<b>P3KEA14ESSBNNP</b>	61	17	-20	80	48	267	60	60	860
1/2	8 bar, relieving, auto drain	<b>P3KEA14ESABNNP</b>	61	17	-20	80	48	267	60	60	875
1/2	8 bar, relieving, gauge, manual drain	<b>P3KEA14ESMBNGP</b>	61	17	-20	80	48	267	60	97	930
1/2	8 bar, relieving, gauge, semi-auto drain	<b>P3KEA14ESSBNGP</b>	61	17	-20	80	48	267	60	97	935
1/2	8 bar, relieving, gauge, auto drain	<b>P3KEA14ESABNGP</b>	61	17	-20	80	48	267	60	97	950

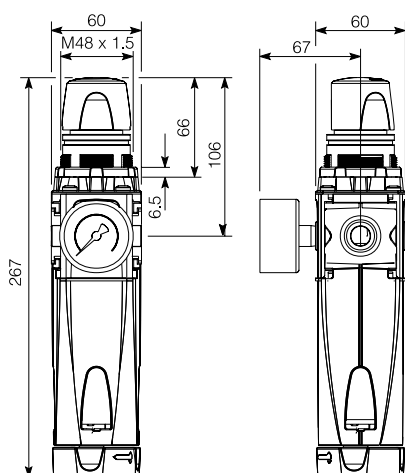
\*flow with 10 bar inlet pressure, 6,3 bar set pressure and 1 bar pressure drop.

PDE2501TCUK-ca

**Moduflex modular air preparation system**
**P3K Series**
**Technical Information**

Fluid:	Compressed air
Maximum inlet pressure*:	17 bar
Temperature range*:	-20°C to +80°C
Particle removal:	5 micron and 40 micron
Air quality:	Within ISO 8573-1, Class 3 and 5 (particulates)
Typical flow with 10 bar inlet pressure 6,3 bar set pressure and 1 bar pressure drop 61l/s	
Manual drain:	twist grip open and barbed connection
Semi-auto drain: 0,2 bar @ min flow of 0,4 l/s bowl pressure to close drain	with barbed connection
Auto drain: bowl pressure to close drain Operating range manual override facility (depress pin) barbed connection.	1 bar 1 to 17 bar
Bowl sump capacity:	48 cm <sup>3</sup>
Gauge ports ( x 2 ):	1/4"

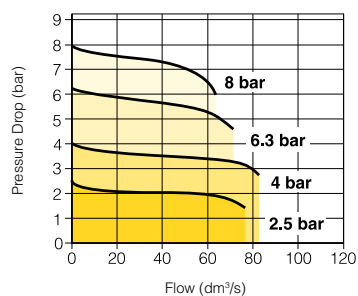
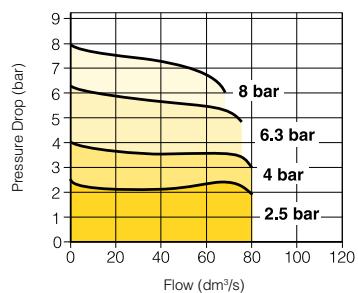
\* Air supply must be dry enough to avoid ice formation at temperatures below +2°C

**Dimensions (mm)**

**Service kits**

Description	Order code
5 micron element kit	<b>P3KKA00ESE</b>
40 micron element kit	<b>P3KKA00ESG</b>
Sight glass & manual drain kit	<b>P3KKA00BSM</b>
Sight glass & semi-auto drain kit	<b>P3KKA00BSS</b>
Sight glass & auto drain kit	<b>P3KKA00BSA</b>
Lockable tamper-proof kit	<b>P3KKA00AL</b>
Tamper-proof knob kit	<b>P3KKA00AT</b>
Diaphragm kit (relieving type)	<b>P3KKA00RR</b>
Diaphragm kit (non-relieving type)	<b>P3KKA00RN</b>

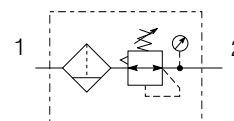
**Material Specification**

Body:	Aluminium
Sight glass:	Technopolymer
Body cover:	Polyester
Element:	Sintered polypropylene
Elastomers:	Nitrile NBR
Bayonet support:	Acetal
Drain:	Acetal
Bonnet:	Glass filled polyamide
Control knob:	Polyamide
Valve:	Composite
Screws:	Steel/ zinc plated

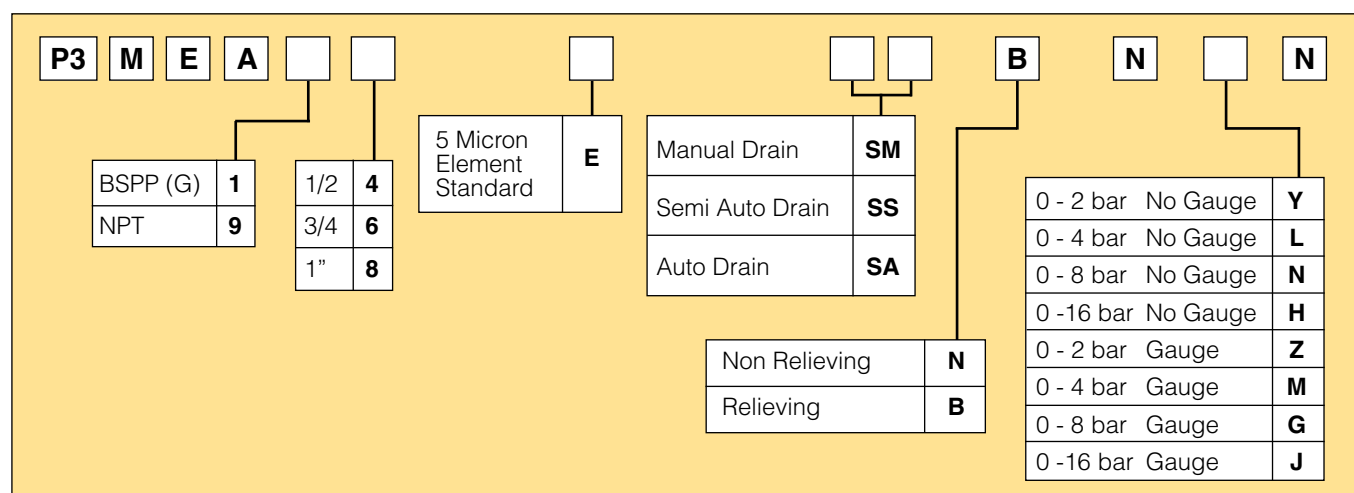
**For Gauges: See page 77**
**Flow characteristics**
**(3/8) 5 Micron Filter/Regulator**

**(1/2) 5 Micron Filter/Regulator**


PDE2501TCUK-ca

**Moduflex modular air preparation system**
**P3M Series**
**Filter/Regulator**

**Symbols**


- Integral 1/2, 3/4 or 1" ports (BSPP & NPT)
- High efficiency 5 micron element as standard
- Excellent water removal efficiency
- Robust but lightweight aluminium construction
- One hand operation for easy element cartridge removal
- Positive bayonet latch to ensure correct & safe fitting
- No tools required for servicing filter element
- Secondary pressure ranges 2, 4, 8 and 16 bar
- Rolling diaphragm for extended life
- Secondary aspiration plus balanced poppet provides quick response and accurate pressure regulation.

**Options:**


Port size	Description	Order Code	Flow l/s *	Max bar	Min temp °C	Max temp °C	Bowl size cm³	Height mm	Width mm	Depth mm	Weight g
1/2	8 bar, relieving, manual drain	<b>P3MEA14ESMBNNN</b>	113	17	-20	80	100	340	80	80	1868
1/2	8 bar, relieving, semi-auto drain	<b>P3MEA14ESSBNNN</b>	113	17	-20	80	100	340	80	80	1858
1/2	8 bar, relieving, auto drain	<b>P3MEA14ESABNNN</b>	113	17	-20	80	100	340	80	80	1888
1/2	8 bar, relieving, gauge, manual drain	<b>P3MEA14ESMBNGN</b>	113	17	-20	80	100	340	80	115	1918
1/2	8 bar, relieving, gauge, semi-auto drain	<b>P3MEA14ESSBNGN</b>	113	17	-20	80	100	340	80	115	1908
1/2	8 bar, relieving, gauge, auto drain	<b>P3MEA14ESABNGN</b>	113	17	-20	80	100	340	80	115	1938
3/4	8 bar, relieving, manual drain	<b>P3MEA16ESMBNNN</b>	120	17	-20	80	100	340	80	80	1865
3/4	8 bar, relieving, semi-auto drain	<b>P3MEA16ESSBNNN</b>	120	17	-20	80	100	340	80	80	1855
3/4	8 bar, relieving, auto drain	<b>P3MEA16ESABNNN</b>	120	17	-20	80	100	340	80	80	1885
3/4	8 bar, relieving, gauge, manual drain	<b>P3MEA16ESMBNGN</b>	120	17	-20	80	100	340	80	115	1915
3/4	8 bar, relieving, gauge, semi-auto drain	<b>P3MEA16ESSBNGN</b>	120	17	-20	80	100	340	80	115	1905
3/4	8 bar, relieving, gauge, auto drain	<b>P3MEA16ESABNGN</b>	120	17	-20	80	100	340	80	115	1935
1"	8 bar, relieving, manual drain	<b>P3MEA18ESMBNNN</b>	120	17	-20	80	100	340	80	80	1860
1"	8 bar, relieving, semi-auto drain	<b>P3MEA18ESSBNNN</b>	120	17	-20	80	100	340	80	80	1850
1"	8 bar, relieving, auto drain	<b>P3MEA18ESABNNN</b>	120	17	-20	80	100	340	80	80	1880
1"	8 bar, relieving, gauge, manual drain	<b>P3MEA18ESMBNGN</b>	120	17	-20	80	100	340	80	115	1910
1"	8 bar, relieving, gauge, semi-auto drain	<b>P3MEA18ESSBNGN</b>	120	17	-20	80	100	340	80	115	1900
1"	8 bar, relieving, gauge, auto drain	<b>P3MEA18ESABNGN</b>	120	17	-20	80	100	340	80	115	1930

\*flow with 10 bar inlet pressure, 6,3 bar set pressure and 1 bar pressure drop.

PDE2501TCUK-ca

## Moduflex modular air preparation system

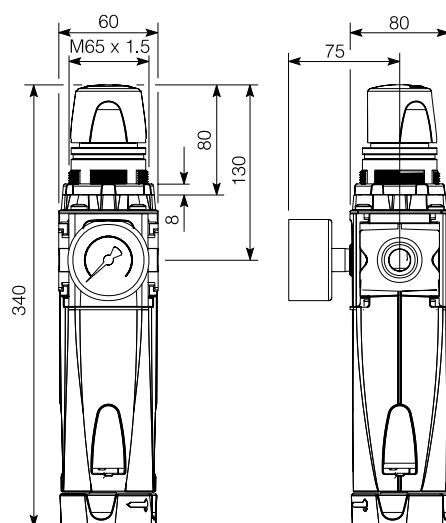
## P3M Series

### Technical Information

Fluid:	Compressed air
Maximum inlet pressure*:	17 bar
Temperature range*:	-20°C to +80°C
Particle removal:	5 micron
Air quality:	Within ISO 8573-1, Class 3 (particulates)
Typical flow with 10 bar inlet pressure 6,3 bar set pressure and 1 bar pressure drop 120 l/s	
Manual drain:	twist grip open and barbed connection
Semi-auto drain: 0,2 bar @ min flow of 0,4 l/s bowl pressure to close drain	with barbed connection
Auto drain: bowl pressure to close drain Operating range manual override facility (depress pin) barbed connection.	1 bar 1 to 17 bar
Bowl sump capacity:	100 cm <sup>3</sup>
Gauge ports ( x 2 ):	1/4"

\* Air supply must be dry enough to avoid ice formation at temperatures below +2°C

### Dimensions (mm)



### Service kits

Description	Order code
5 micron element kit	P3MKA00ESE
Sight glass & manual drain kit	P3MKA00BSM
Sight glass & semi-auto drain kit	P3MKA00BSS
Sight glass & auto drain kit	P3MKA00BSA
Lockable tamper-proof kit	P3MKA00AL
Tamper-proof knob kit	P3MKA00AT
Maximum pressure limiter kit	P3MKA00AM
Diaphragm kit (relieving type)	P3MKA00RR
Diaphragm kit (non-relieving type)	P3MKA00RN
Angle bracket + metal lock ring	P3MKA00MS
Aluminium	P3MKA00MM



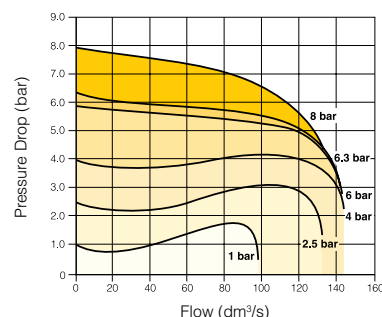
### Material Specification

Body:	Aluminium
Sight glass:	Technopolymer
Body cover:	Polyester
Element:	Sintered polypropylene
Elastomers:	Nitrile NBR
Bayonet support:	Nylon
Drain:	Acetal
Bonnet:	Glass filled polyamide
Control knob:	Polyamide
Valve:	Composite
Screws:	Steel/ zinc plated

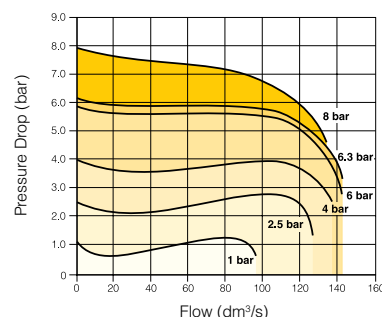
For Gauges: See page 77

### Flow characteristics

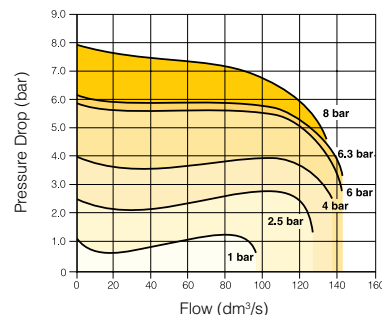
#### (1/2) 5 Micron Filter/Regulator



#### (3/4) 5 Micron Filter/Regulator



#### (1") 5 Micron Filter/Regulator



PDE2501TCUK-ca

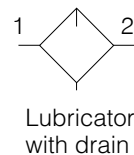
## Moduflex modular air preparation system

## P3H Series

### Moduflex Lubricator



### Symbols



- Integral 1/8 or 1/4 ports (BSPP & NPT)
- Robust but lightweight aluminium construction
- Proportional oil delivery over a wide range of air flows.
- Finger tip ratchet control for precise oil drip rate adjustment
- '2 stage' bayonet to reveal large filling orifice
- Large oil reservoir

### Options:

P3	H	L	A			L	S	M	N
				BSPP (G)	1	1/8	1		
				NPT	9	1/4	2		

Port size	Description	Order Code	Flow l/s *	Max bar	Min temp °C	Max temp °C	Bowl size cm³	Height mm	Width mm	Depth mm	Weight g
G1/8	Oil mist	<b>P3HLA11LSMN</b>	13	10	-20	+80	32	195	40	40	285
G1/4	Oil mist	<b>P3HLA12LSMN</b>	26	10	-20	+80	32	195	40	40	280

\* flow with 6,3 bar inlet pressure and 0,5 pressure drop.



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**Moduflex modular air preparation system**
**P3H Series**
**Technical Information**

Fluid:	Compressed air
Maximum inlet pressure*:	10 bar
Temperature range*:	-20°C to +80°C
Manual drain:	twist grip open and barbed connection

\* Air supply must be dry enough to avoid ice formation at temperatures below +2° C  
Low flow start point (lubrication pick-up): at 6.3bar inlet pressure 0.76 l/s  
Typical flow with 6.3bar inlet pressure and 0.7 bar pressure drop: 26 l/s

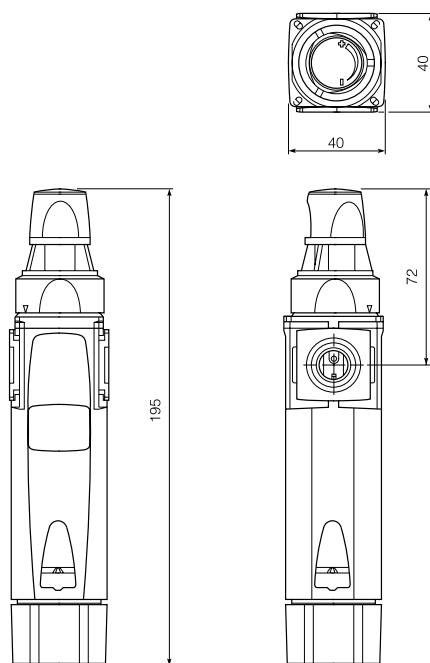
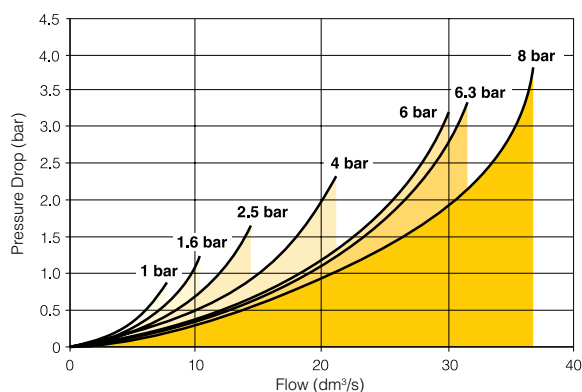
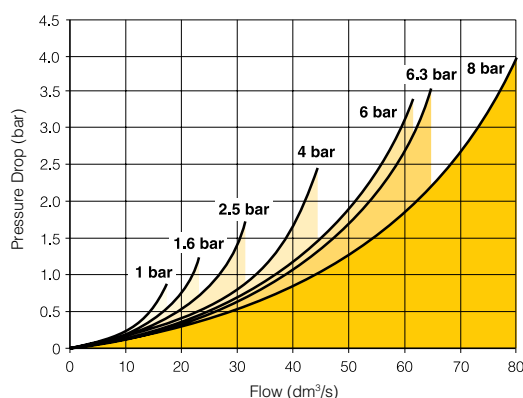
**Note : Fill lubricant from top only**
**Material Specification**

Body:	Aluminium
Bowl sight glass:	Technopolymer
Sight dome:	Technopolymer
Lubricator cover:	Polyester
Bayonet support:	Nylon
Drain:	Acetal
Elastomers:	Nitrile NBR

**Lubrication of airlines**

High speed tools and systems			Air Cylinders and valves	
Oil Company	ISO Grade	Grade	ISO Grade	Grade
Century Oils	Century P - 198	15	P.W.L.A	32
Alexander Duckham	Zurcon 2	15	Zurcon 4 32	
Gulf	Harmony 38AW	15	Harmony 43AW	32
Shell (UK) Oil	Tellus 22	22	Tellus 37	37
Burmah Castrol	Hyspin AWS15	15	Hyspin AWS32	32
Edgar Vaughan	KSO 5L	10	Hydrodrive HP100	32
Esso Petroleum	NUTO 1115	15	NUTO H32	32
B.P.	HLP 22	22	HLP 32	32
Mobile Oil Company	Velocite No.6	10	DTE Oil - Light	32
Mobile			VPI-A	32
Silkolene	Silkair GP22	22	Derwent 32	32
Silkolene	Dove 15	15		
Shell	Cassida Fluid HF*	32		
Klüberoil	4UH1*	32		

\* For food industry applications : approved oil USDA-H1

**Do not use oils with additives, compounds oils containing solvents, graphite, detergents or synthetic oils.**
**Dimensions (mm)**

**Flow characteristics**
**(1/8) Lubricator**

**(1/4) Lubricator**

**Service kits**

Description	Order code
Sight glass & manual drain kit	P3HKA00BSM
Drain control assembly kit	P3HKA00PG

PDE2501TCUK-ca

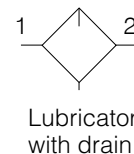
## Moduflex modular air preparation system

## P3K Series

### Moduflex Lubricator



### Symbols



- Integral 3/8 or 1/2 ports (BSPP & NPT)
- Robust but lightweight aluminium construction
- Proportional oil delivery over a wide range of air flows.
- Finger tip ratchet control for precise oil drip rate adjustment
- Fill from top under system pressure
- '2 stage' bayonet to reveal large filling orifice
- Large oil reservoir

### Options:

P3	K	L	A			L	S	M	N
				BSPP (G)	1	3/8	3		
				NPT	9	1/2	4		

Port size	Description	Order Code	Flow l/s *	Max bar	Min temp °C	Max temp °C	Bowl size cm³	Height mm	Width mm	Depth mm	Weight g
3/8	Oil mist, fill under pressure	<b>P3KLA13LSMN</b>	44	17	-20	80	130	241	60	60	745
1/2	Oil mist, fill under pressure	<b>P3KLA14LSMN</b>	70	17	-20	80	130	241	60	60	735

\* flow with 6,3 bar inlet pressure and 0,5 pressure drop.

PDE2501TCUK-ca

## Moduflex modular air preparation system

## P3K Series

### Technical Information

Fluid:	Compressed air
Maximum inlet pressure*:	17 bar
Temperature range*:	-20°C to +80°C
Manual drain:	twist grip open and barbed connection

\* Air supply must be dry enough to avoid ice formation at temperatures below +2° C  
Low flow start point (lubrication pick-up): at 6.3bar inlet pressure 0.76 l/s  
Typical flow with 6.3bar inlet pressure and 0.7 bar pressure drop: 76 l/s

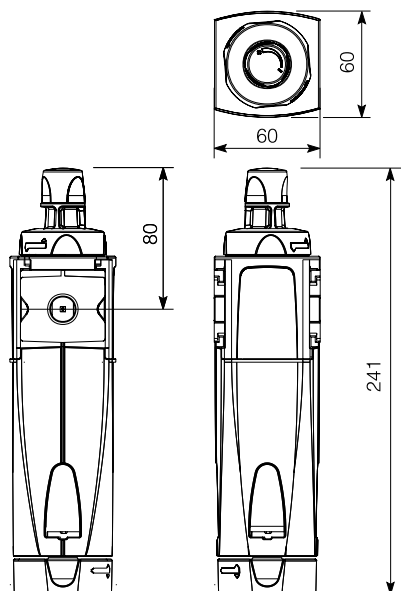
**Note :** Fill lubricant from top only

For recommended lubricants see page 45

### Material Specification

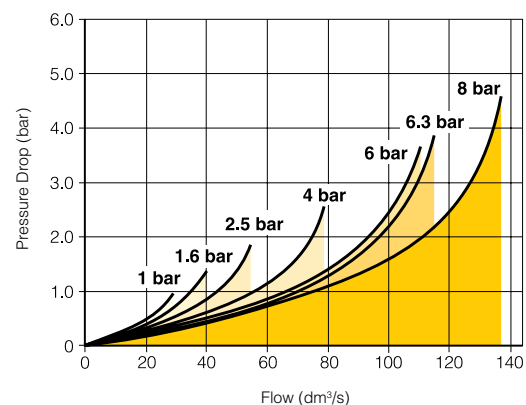
Body:	Aluminium
Bowl sight glass:	Technopolymer
Sight dome:	Technopolymer
Lubricator cover:	Polyester
Bayonet support:	Acetal
Drain:	Acetal
Elastomers:	Nitrile NBR

### Dimensions (mm)

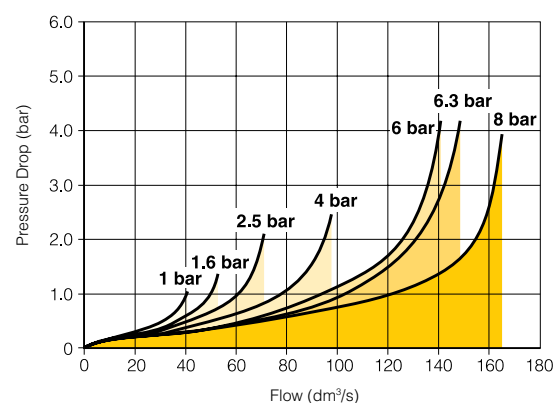


### Flow characteristics

#### (3/8) Lubricator



#### (1/2) Lubricator



### Service kits

Description	Order code
Sight glass & manual drain kit	P3KKA00BSM
Drip control assembly kit	P3KKA00PG

PDE2501TCUK-ca

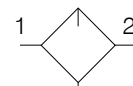
## Moduflex modular air preparation system

## P3M Series

### Moduflex Lubricator



### Symbols



Lubricator  
with drain

- Integral 1/2, 3/4 or 1" ports (BSPP & NPT)
- Robust but lightweight aluminium construction
- Proportional oil delivery over a wide range of air flows.
- Finger tip ratchet control for precise oil drip rate adjustment
- Fill from top under system pressure
- '2 stage' bayonet to reveal large filling orifice
- Large oil reservoir

### Options:

P3	M	L	A			L	S	M	N
				BSPP (G)	1	1/2	4		
				NPT	9	3/4	6		
						1"	8		

Port size	Description	Order Code	Flow l/s *	Max bar	Min temp °C	Max temp °C	Bowl size cm³	Height mm	Width mm	Depth mm	Weight g
1/2	Oil mist, fill under pressure	<b>P3MLA14LSMN</b>	87	17	-20	80	320	303	80	80	1460
3/4	Oil mist, fill under pressure	<b>P3MLA16LSMN</b>	103	17	-20	80	320	303	80	80	1443
1"	Oil mist, fill under pressure	<b>P3MLA18LSMN</b>	108	17	-20	80	320	303	80	80	1407

\* flow with 6,3 bar inlet pressure and 0,5 pressure drop.

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## Moduflex modular air preparation system

## P3M Series

### Technical Information

Fluid:	Compressed air
Maximum inlet pressure*:	17 bar
Temperature range*:	-20°C to +80°C
Manual drain:	twist grip open and barbed connection

\* Air supply must be dry enough to avoid ice formation at temperatures below +2° C  
Low flow start point (lubrication pick-up): at 6.3bar inlet pressure 0.76 l/s  
Typical flow with 6.3bar inlet pressure and 0.7 bar pressure drop: 108 l/s

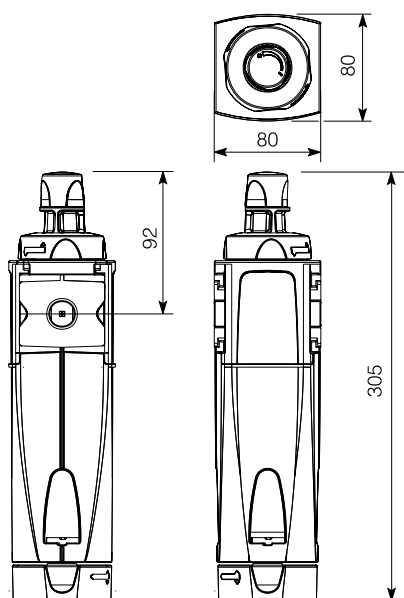
**Note : Fill lubricant from top only**

**For recommended lubricants see page 45**

### Material Specification

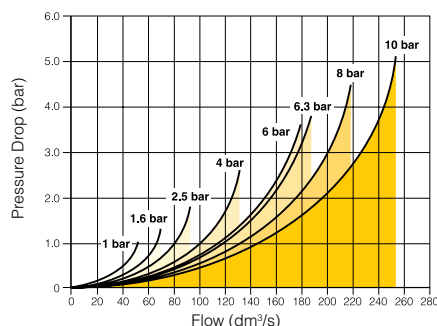
Body:	Aluminium
Bowl sight glass:	Technopolymer
Sight dome:	Technopolymer
Lubricator cover:	Polyester
Bayonet support:	Nylon
Drain:	Acetal
Elastomers:	Nitrile NBR

### Dimensions (mm)

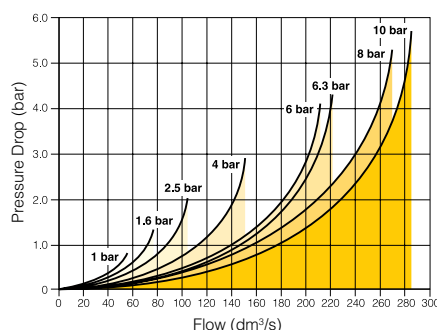


### Flow characteristics

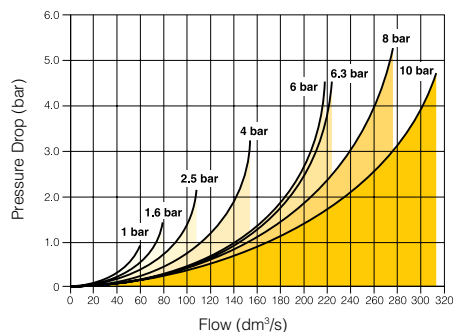
#### (1/2) Lubricator



#### (3/4) Lubricator



#### (1") Lubricator



### Service kits

Description	Order code
Sight glass & manual drain kit	P3MKA00BSM
Drip control assembly kit	P3MKA00PG

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## Moduflex modular air preparation system

## P3H / P3K / P3M Series

### Optional Port Block Kits

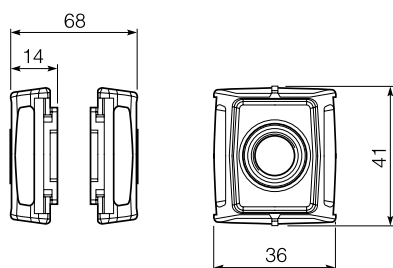


- To change port sizes Port Block Kits are available, they are attached to any unit utilising the 'Cliplok' system.
- Allows assemblies to be removed from a hard piped system.

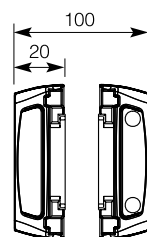
Series	Connection	Order Code	Weight (g)
<b>P3H</b>	G <sup>1</sup> / <sub>8</sub>	<b>P3HKAD1CP</b>	26
<b>P3H</b>	G <sup>1</sup> / <sub>4</sub>	<b>P3HKAD2CP</b>	26
<b>P3K</b>	G <sup>3</sup> / <sub>8</sub>	<b>P3KKAD3CP</b>	190
<b>P3K</b>	G <sup>1</sup> / <sub>2</sub>	<b>P3KKAD4CP</b>	180
<b>P3M</b>	G <sup>1</sup> / <sub>2</sub>	<b>P3MKAD4CP</b>	518
<b>P3M</b>	G <sup>3</sup> / <sub>4</sub>	<b>P3MKAD6CP</b>	483
<b>P3M</b>	G1"	<b>P3MKAD8CP</b>	438

**Note:** For NPT version replace figure **A** with **B**

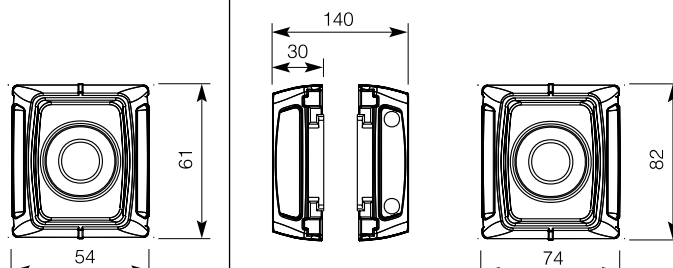
#### P3H Series



#### P3K Series



#### P3M Series

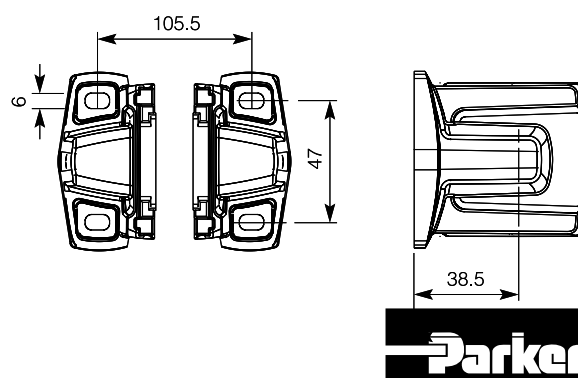


### Rear Entry Connector Kits - P3K Series



The Rear Entry Connector is available in 1/2" port size and enables single units or combinations to be mounted on a bulkhead with the air connections made from the rear.

Thread	Connection	Order Code	Weight (g)
BSPP	1/2	<b>P3KKAR4CR</b>	250
NPT	1/2	<b>P3KKAT4CR</b>	250



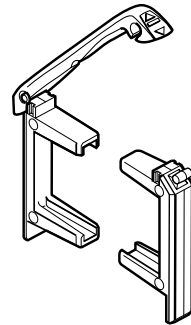
PDE2501TCUK-ca

## Moduflex modular air preparation system

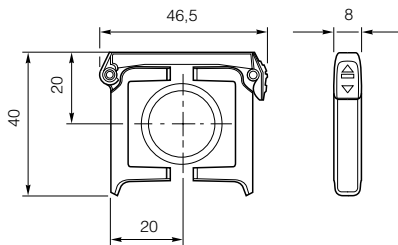
## P3H / P3K / P3M Series

### Accessories

#### Modular Connector (Cliplok) Kit

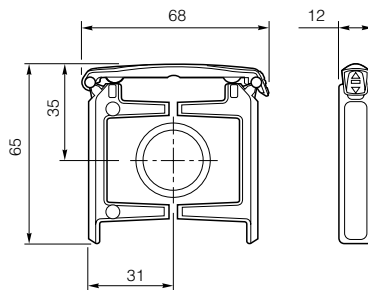


##### P3H Series



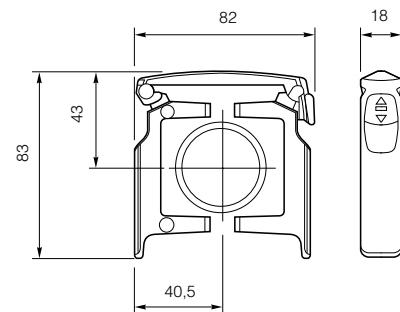
Series	Weight (g)	Order code
<b>P3H</b>	8	<b>P3HKA00CB</b>

##### P3K Series



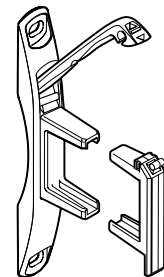
Series	Weight (g)	Order code
<b>P3K</b>	22	<b>P3KKB00CB</b>

##### P3M Series

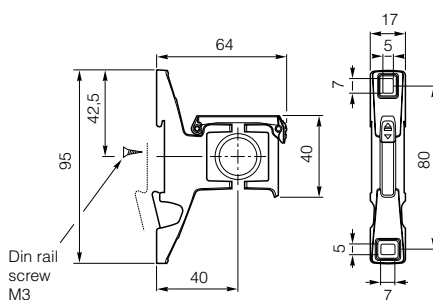


Series	Weight (g)	Order code
<b>P3M</b>	71	<b>P3MKA00CB</b>

#### Wall Mounting Bracket Connector Kit

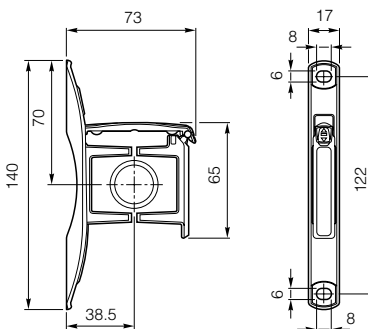


##### P3H Series



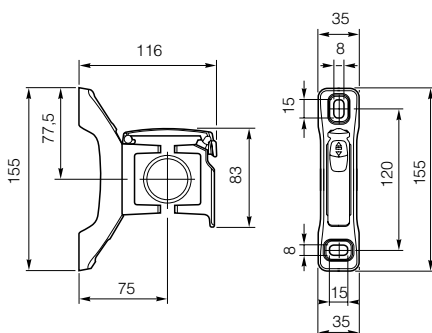
Series	Weight (g)	Order code
<b>P3H</b>	32	<b>P3HKA00CW</b>
<b>P3H</b>	2	<b>P3HKA00MD</b>

##### P3K Series



Series	Weight (g)	Order code
<b>P3K</b>	70	<b>P3KKB00CW</b>

##### P3M Series



Series	Weight (g)	Order code
<b>P3M</b>	168	<b>P3MKA00CW</b>



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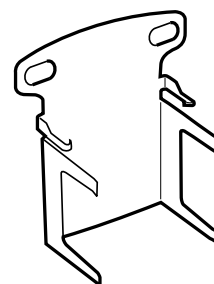
## Moduflex modular air preparation system

## P3H / P3K / P3M Series

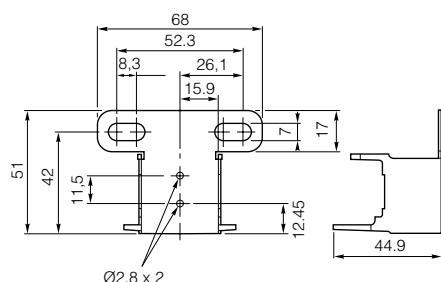
### Accessories

#### Single Unit Mounting Bracket

Suitable for individual Filters and Lubricator mounting

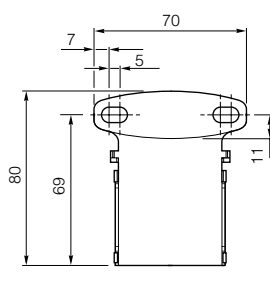


#### P3H Series



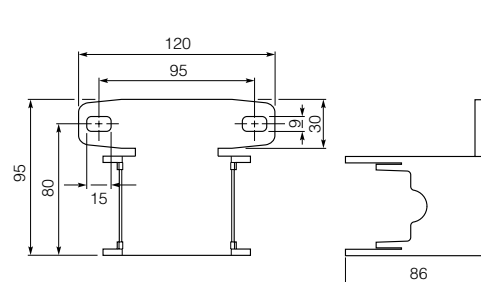
Series	Weight (g)	Order code
<b>P3H</b>	25	<b>P3HKA00MW</b>

#### P3K Series



Series	Weight (g)	Order code
<b>P3K</b>	44	<b>P3KKA00MW</b>

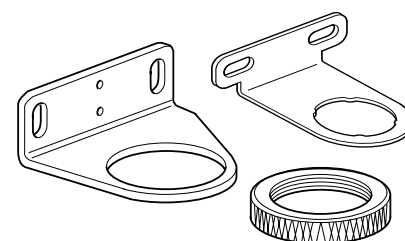
#### P3M Series



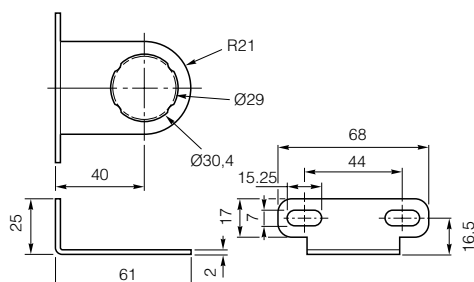
Series	Weight (g)	Order code
<b>P3M</b>	130	<b>P3MKA00MW</b>

### Regulator & Filter Regulator Angle Bracket

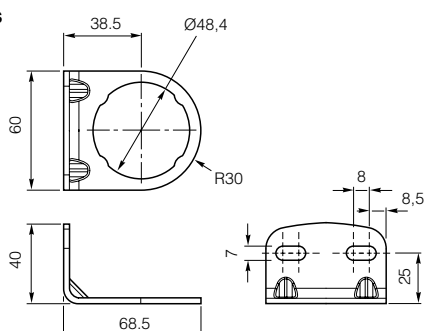
Suitable for individual Regulator and Filter-Regulator mounting



#### P3H Series

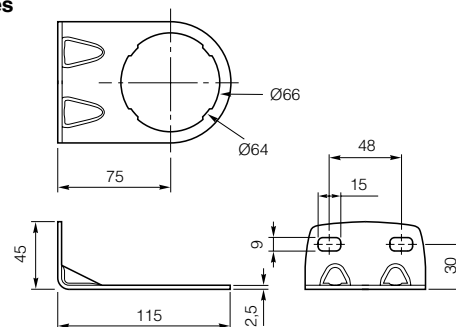


#### P3K Series



Series	Description	Weight (g)	Order code
<b>P3H</b>	Angle bracket + plastic nut	44.5	<b>P3HKA00MR</b>
<b>P3H</b>	Angle bracket + metal nut	47	<b>P3HKA00MS</b>
<b>P3K</b>	Angle bracket + plastic nut	74.5	<b>P3KKA00MR</b>
<b>P3K</b>	Angle bracket + metal nut	79	<b>P3KKA00MS</b>



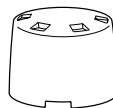

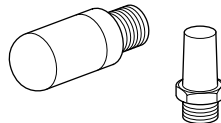
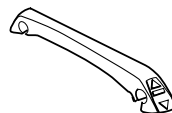

#### P3M Series



Series	Description	Weight (g)	Order code
<b>P3M</b>	Angle bracket + metal nut	171	<b>P3MKA00MS</b>

PDE2501TCUK-ca

**Moduflex modular air preparation system**
**Accessories**

Series	Description	Connection	Weight (g)	Order code	
<b>P3H</b>	Panel mounting nut (Aluminium)		5	<b>P3HKA00MM</b>	
<b>P3K</b>	Panel mounting nut (Aluminium)		8.5	<b>P3KKA00MM</b>	
<b>P3M</b>	Panel mounting nut (Aluminium)		24	<b>P3MKA00MM</b>	
<b>P3H</b>	Regulator & Filter/Regulator - Tamperproof kit		29	<b>P3HKA00AL</b>	
<b>P3K</b>			75	<b>P3KKA00AL</b>	
<b>P3M</b>			105	<b>P3MKA00AL</b>	
<b>P3H</b>	Tamperproof knob kit		-	<b>P3HKA00AT</b>	
<b>P3K</b>			-	<b>P3KKA00AT</b>	
<b>P3M</b>			-	<b>P3MKA00AT</b>	
<b>P3H</b>	Pressure gauge	0 to 2 bar 1/8	35	<b>P3D-KAB1AYN</b>	
		0 to 4 bar 1/8	35	<b>P3D-KAB1ALN</b>	
		0 to 10 bar 1/8	35	<b>P3D-KAB1ANN</b>	
		0 to 20 bar 1/8	35	<b>P3D-KAB1AHN</b>	
<b>P3K</b>	Pressure gauge	0 to 4 bar 1/4	50	<b>P6G-ERB2040</b>	
		0 to 11 bar 1/4	50	<b>P6G-ERB2110</b>	
		0 to 20 bar 1/4	50	<b>P6G-ERB2200</b>	
<b>P3H</b>	Exhaust Muffler				
<b>P3K</b>	Plastic Series	1/4		<b>P6M-PAB2</b>	
	Sintered Bronze Series	1/4		<b>P6M-BAA2</b>	
<b>P3H</b>	Overstrap (Spares kit)		10	<b>P3HKA00CF</b>	
<b>P3K</b>	(pack of 10)		20	<b>P3KKB00CF</b>	
<b>P3M</b>			50	<b>P3MKA00CF</b>	
<b>P3H</b>	Connector O ring (Spares kit)		2	<b>P3HKA02CY</b>	
<b>P3K</b>	(pack of 5)		2	<b>P3KKA04CY</b>	
<b>P3M</b>			5	<b>P3MKA08CY</b>	

# 4.3

# Veivhusfilter



## Veivhusfilter

Veivhusfilter filtrerer gasser og partikler i veivhuset. Et lukket veivhusfilter fører luften tilbake til motorens innløp. En regulator i veivhusfilteret sørger for kontrollert drift.

Modell	CCV 4500	CCV 6000	CCV 8000
Kapasitet HK:40=1 CFM	283 lpm/10 cfm	566 lpm/20 cfm	1132 lpm/40 cfm
Element	CCV 55248	CCV 55274	CCV 55222



# Closed Crank Case Ventilation Systems



	CCV1500	CCV3500	CCV4500	CCV6000	CCV8000
Height	5.1" / 130 mm	7.0" / 178 mm	9.25" / 235.0 mm	12.00" / 304.8 mm	13.88" / 352.6 mm
Maximum Opening Width (incl. clamps & bracket)	8.2" / 208 mm	7.0" / 178 mm	7.50" / 190.5 mm	11.25" / 286.8 mm	13.25" / 336.6 mm
Depth	5.6" / 142 mm	6.3" / 160 mm	5.60" / 142.2 mm	7.30" / 185.4 mm	9.30" / 236.2 mm
Weight	1.5 lbs / .68 kg	2.3 lbs / 1.0 kg	3.26 lbs / 1.48 kg	5.01 lbs / 2.28 kg	8.72 lbs / 3.96 kg
Filter Removal Clearance	6.0" / 152 mm	4.6" / 117 mm	2.25" / 57.2 mm	4.00" / 101.6 mm	5.00" / 127.0 mm
Replacement Element / Media Density/Low	CCV 55365-04	N/A	N/A	N/A	N/A
Replacement Element / Media Density/Medium	N/A	CCV 55304-06	CCV 55248-06	CCV 55274-06	CCV 55222-06
Replacement Element / Media Density/High	N/A	CCV 55304-08	CCV 55248-08	CCV 55274-08	CCV 55222-08
Housing Material	Glass-filled nylon and black powder epoxy coated steel bracket.	Glass-filled nylon components.	Die cast head, glass-filled nylon and black powder epoxy coated steel bowl.	Die cast head, glass-filled nylon and black powder epoxy coated steel bowl.	Die cast head, glass-filled nylon and black powder epoxy coated steel bowl.
Inlet & Outlet Thread Size	3/4" hose	3/4" hose	1 3/16" - 12 STOR	1 5/8" - 12 STOR	1 7/8" - 12 STOR
Max. Cubic Feet per Minute	1" cfm / 30 lpm	3.0" cfm / 84 lpm	10 cfm / 283 lpm	20 cfm / 566 lpm	40 cfm / 1132 lpm
Crankcase Pressure Regulator	Vacuum limiting valve	Integral	Integral	Integral	Integral
Bypass/Change Indicator	N/A	Integral	Integral or Remote	Integral or Remote	Integral or Remote
Engine Block Check Valve Return Fitting	N/A	1/4" NPT	1/4" NPT	1/4" NPT	3/8" NPT
Swivel Fitting (Qty.)	N/A	# 6 JIC (2pcs.)	# 6 JIC (2pcs.)	# 6 JIC (2pcs.)	# 8 JIC (2pcs.)
Oil drain hose I.D.	N/A	.375"	.375"	.375"	.5"

Additional details are available in technical manual #55021. \* Units can be manifolded to handle higher flow rates.

Crankvent CV820 and CV1000 Systems trap crankcase blow-by and recycle engine oil through a high performance, open-cell foam filter. They help to decrease costs for maintaining air filters and keeping engine rooms clean. These units are typically used as an "open" system for non-turbocharged engines.



Model No.	CV820	CV1000 <sup>2</sup>
Diameter	6.00" / 152 mm	8.14" / 207 mm
Height	7.55" / 192 mm	8.48" / 215 mm
Weight	2.0 lbs. / 0.9 kg	3.0 lbs. / 1.4 kg
Filter Removal Clearance	4.00" / 102 mm	4.00" / 102 mm
Housing Material	Anodized aluminum All 18-8 stainless hardware	Anodized aluminum All 18-8 stainless hardware
Inlet Size	1" Female NPT	1-1/4" Female NPT
Outlet Size	1" Female NPT	1-1/4" Female NPT
Horsepower Range	Up to 350 HP (75-260 KW)	350-600 HP (260-450 KW)
Max. Cubic Feet per Minute	10 cfm / 283 lpm	15 cfm / 425 lpm
Service Kit	CV 820 SK	CV 1000 SK

For use on naturally aspirated engines.

(1) Use of two or more filters per engine allows higher flow.

(2) The Crankvent® CV1000 must be used in two cycle engines with air box drain applications.

## Open System Crankcase Filtration



High efficiency, high capacity open cell foam filter

A unique baffle design disperses gases throughout the full length of the media – improving efficiency and release of oil into the reservoir – maintaining a low pressure drop throughout an extended filter life

Reduces NOx and hydrocarbon emissions by lowering combustion temperatures (Closed systems only)

Specially-compounded, long-lasting seals

Oil reservoir collects filtered contaminants

Integral drain/check valve allows for periodic disposal of collected oil. For maintenance-free operation, valve can be plumbed directly to the oil pan

## Closed Crank Case Ventilation Systems

### CCV SYSTEMS



### Racor CCV™ Systems

In a robust, compact package, the patented Racor CCV closed crankcase ventilation filter systems provide superior oil coalescence and crankcase pressure control under the most severe conditions.

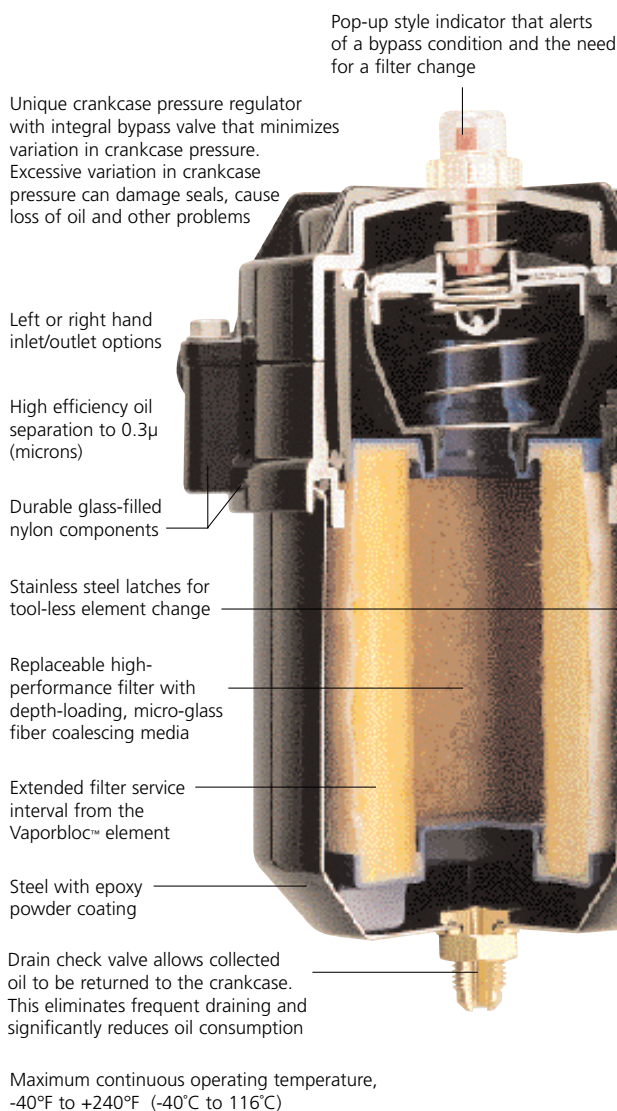
The only routine maintenance required for the Racor Crankcase Ventilation Filter System is filter replacement. Typical service life of the high performance filter in diesel applications is 750 hours. Some variations in service life occur depending on load profile, engine wear condition, flow and aerosol mass concentration of crankcase emissions, and soot concentration.

How to Select the Racor CCV Assembly:  
Racor CCV application is determined by crankcase flow in CFM. CFM on new engines is low but as the engine wears on, the CFM increases. Select the correct Racor CCV model by dividing the engine horsepower output by 40.

Single CCV units are designed to handle various crankcase flow rates up to 40 CFM. Traditionally, the crankcase flow rate can be calculated as follows: Rated horsepower ÷ 40 = cubic feet per minute (CFM). This formula can only be used as a guide since recent improvements in piston design have produced engines with higher horsepower and lower blow-by flow rates. The blow-by flow rate of a worn engine, at time of overhaul, is generally double the flow rate when the engine is new. The flow rate of a worn engine is factored into the formula. Note: Specify left or right hand inlet when ordering.

Example: CAT 3116-260HP / 40  
= 6.5 CFM, select CCV4500

CAT 3406-525HP / 40  
= 13.13 CFM, select  
CCV6000

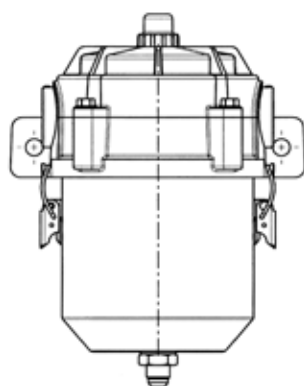




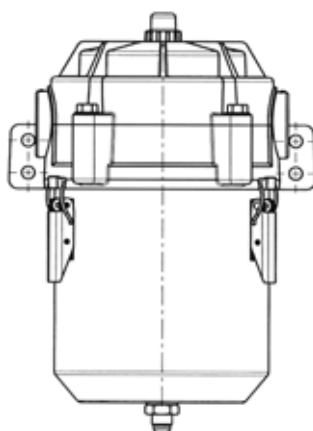
# CCV™ Crankcase Filtration Systems Introduction

## Model Illustrations

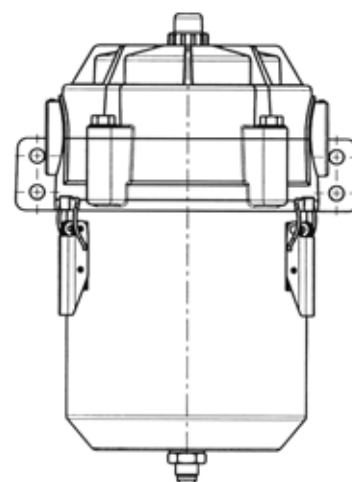
### CCV Style for Closed Systems



CCV4500



CCV6000



CCV8000

## Special Notes

1. For additional information and availability, contact customer service at: (800) 344-3286, 6 AM to 5 PM, Pacific Time.
2. All CCV units are for Closed System applications only.

## Specifications

BASIC MODELS		CCV4500	CCV6000	CCV8000
Engine Horsepower Rating, Max.	HP KW	0-400 0-298	400-800 298-597	800-1600 597-1,193
Inlet/Outlet Port Size		1 3/16"-12 SAE	1 5/8"-12 SAE	1 7/8"-12 SAE
Max. Air Flow*	CFM L/s	10 4.72	20 9.44	40 18.88
Filter Element		CCV55248-06 CCV55248-08	CCV55274-06 CCV55274-08	CCV55222-06 CCV55222-08
Height	in. mm	9.25 235.0	12.00 304.8	13.88 352.6
Diameter (depth)	in. mm	5.60 142.2	7.30 185.4	9.30 236.2
Width	in. mm	7.16 181.9	8.59 218.2	10.61 269.5
Weight (dry)	Lbs. kgs.	3.26 1.48	5.01 2.28	8.72 3.96
Operating Temperature		-40° / +240° F / -40° / +116° C		

\* Values given are cubic feet per minute (CFM) and liters per second (L/s).

1. For horsepower rating consult your engine manual, engine manufacturer's agent or a Racor distributor.

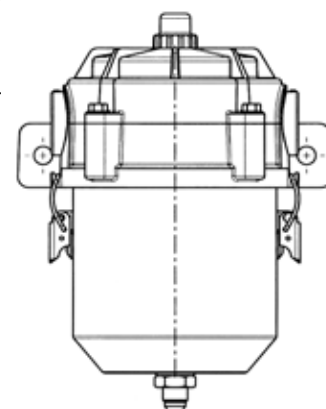
## CCV™ Crankcase Filtration Systems

## Model CCV4500

**Specifications** are found on the Introduction page.

**How to Order** - The example below illustrates how the part numbers are constructed.

<b>CCV4500</b>	<b>-08</b>	<b>L</b>
Maximum flow rate is 10 CFM. This unit is for Closed System applications only.	<u>Specify</u> -06 for medium density media -08 for high density media (-08 is standard unless specified)	<u>Specify</u> L for inlet on left side R for inlet on right side

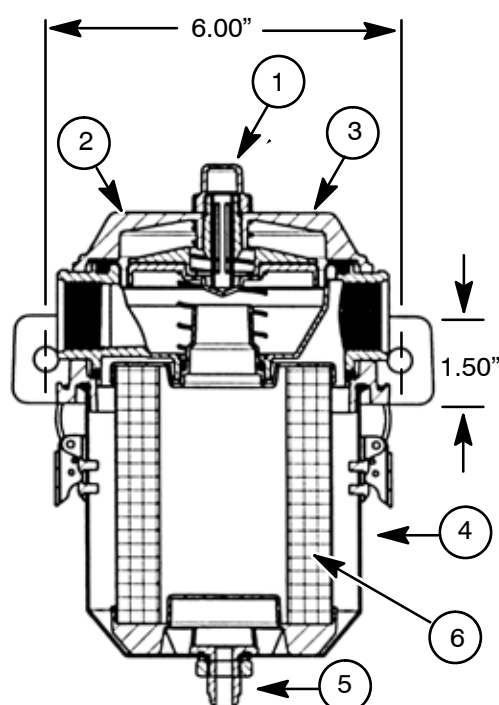
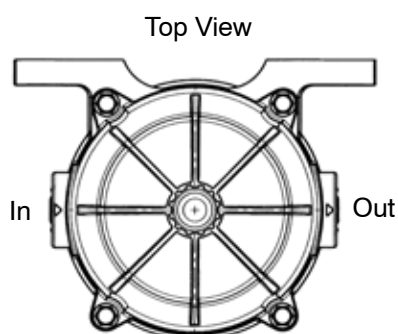


CCV4500

### Replacement Service Elements

<b>CCV55248-06</b>	Service element, medium density
<b>CCV55248-08</b>	Service element, high density

### Mounting Pattern / Parts List



No Scale

#### Service:

The only routine maintenance for the Racor CCV system is replacement of the filter media. Change the element every 750 hours or every oil change. Follow instructions supplied with unit. Some variations in this occur, depending on load profile, engine wear condition, flow and aerosol mass, concentration of crankcase emissions, soot concentration, etc.

#### Parts List:

Part No.	Description	Qty.
<b>Replacement Parts</b>		
1 CCV55081	Bypass indicator replacement kit	1
2 CCV55246L	Head assembly, with left side inlet	1
3 CCV55246R	Head assembly, with right side inlet	1
4 CCV55249	Can assembly	1
5 CCV55279	1/4" MNPT drain check valve (shown)	1
CCV55245	#4 SAE drain check valve	1
CCV55022	Drain kit	1
6 CCV55248-06	Replacement element, medium density	1
CCV55248-08	Replacement element, high density	1
<b>Inlet and Outlet Fittings</b>		
CCV55250	1" OD hose barb to 1 3/16" SAE fitting	1
CCV55251	3/4" OD hose barb to 1 3/16" SAE fitting	1
CCV55280	1 1/4" OD hose barb to 1 3/16" SAE fitting	1
<b>Hose and Fitting Kits</b>		
CCV55024	Hose kit, see CCV accessories page	1
CCV55025	Hose kit, see CCV accessories page	1
CCV55037	Hose kit, see CCV accessories page	1
CCV55038	Hose kit, see CCV accessories page	1
<b>Accessories</b>		
CCV55012	Remote crankcase pressure indicator	1
CCV55039	3/4" by 3/4" by 3/4" OD hose barb tee fitting	1
55021	Installation and Service instructions	1

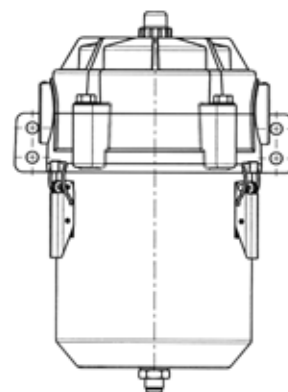
# CCV™ Crankcase Filtration Systems

## Model CCV6000

**SPECIFICATIONS** are found on Introduction page.

**How to Order** - The example below illustrates how the part numbers are constructed.

<b>CCV6000</b>	<b>- 08</b>	<b>L</b>
Maximum flow rate is 20 CFM. This unit is for Closed System applications only.	<u>Specify</u> -06 for medium density media -08 for high density media (-08 is standard unless specified)	<u>Specify</u> L for inlet on left side R for inlet on right side

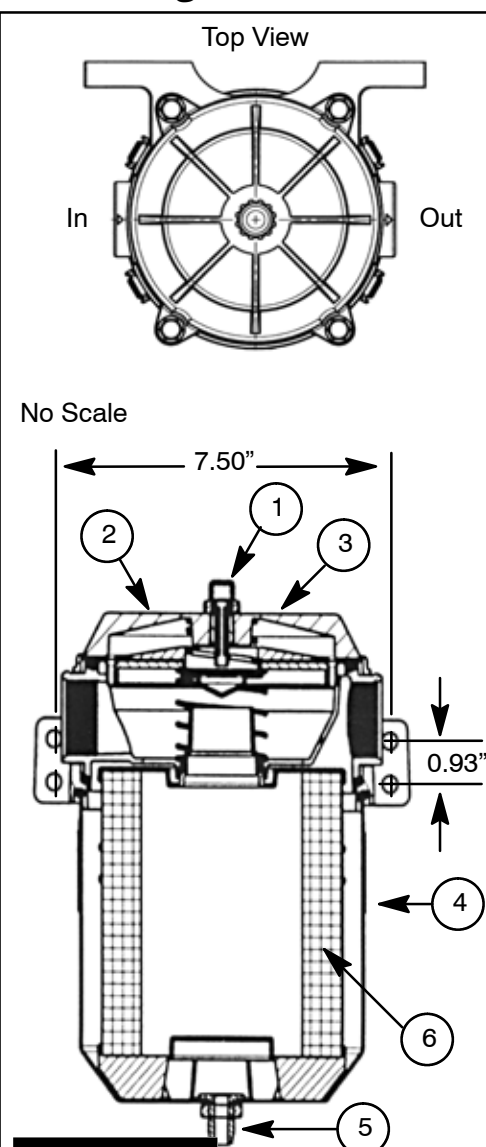


CCV6000

### Replacement Service Element

<b>CCV55274-06</b>	Service element, medium density
<b>CCV55274-08</b>	Service element, high density

### Mounting Pattern / Parts List



#### Service:

The only routine maintenance for the Racor CCV system is replacement of the filter media. Change the element every 750 hours or every oil change. Follow instructions supplied with unit. Some variations in this occur, depending on load profile, engine wear condition, flow and aerosol mass, concentration of crankcase emissions, soot concentration, etc.

#### Parts List:

Part No.	Description	Qty.
<b>Replacement Parts</b>		
1 CCV55081	Bypass indicator replacement kit	1
2 CCV55272L	Head assembly, left side inlet	1
3 CCV55272R	Head assembly, right side inlet	1
4 CCV55275	Can assembly	1
5 CCV55279	1/4" MNPT drain check valve (shown)	1
CCV55245	#4 SAE drain check valve	1
CCV55022	Drain kit	1
6 CCV55274-06	Replacement element, medium density	1
CCV55274-08	Replacement element, high density	1
<b>Inlet and Outlet Fittings</b>		
CCV55267	1 1/2" OD hose barb to 1 5/8" SAE fitting	1
CCV55268	1 1/4" OD hose barb to 1 5/8" SAE fitting	1
<b>Hose and Fitting Kits</b>		
CCV55046	Hose kit, see CCV accessories page	1
CCV55047	Hose kit, see CCV accessories page	1
CCV55048	Hose kit, see CCV accessories page	1
CCV55049	Hose kit, see CCV accessories page	1
<b>Accessories</b>		
CCV55012	Remote crankcase pressure indicator	1
CCV55040	1 1/4" by 1 1/4" by 1 1/4" OD hose barb tee fitting	1
CCV55020	1 1/2" by 1 1/4" Bushing Reducer	1
55021	Installation and Service instructions	

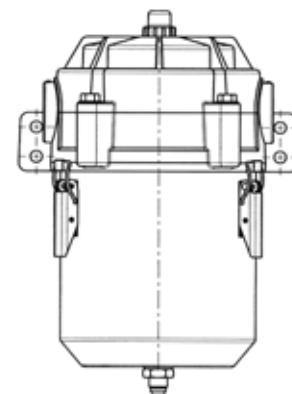
## CCV™ Crankcase Filtration Systems

## Model CCV8000

**SPECIFICATIONS** are found on Introduction page.

**How to Order** - The example below illustrates how the part numbers are constructed.

<b>CCV8000</b>	<b>-08</b>	<b>L</b>
Maximum flow rate is 40 CFM. This unit is for Closed System applications only.	<u>Specify</u> -06 for medium density media -08 for high density media (-08 is standard unless specified)	<u>Specify</u> L for inlet on left side R for inlet on right side

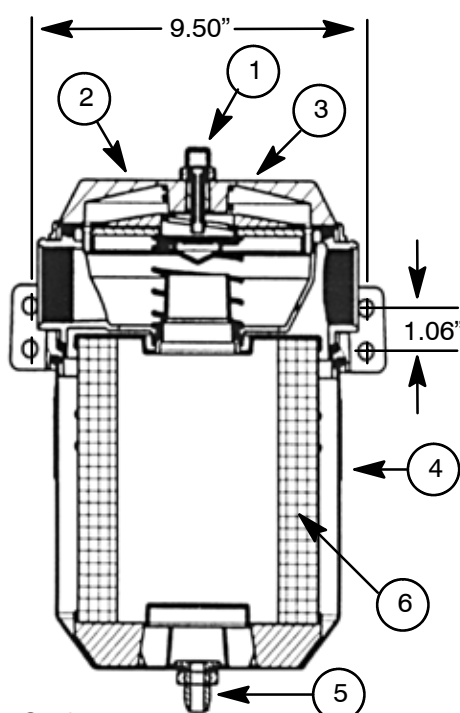
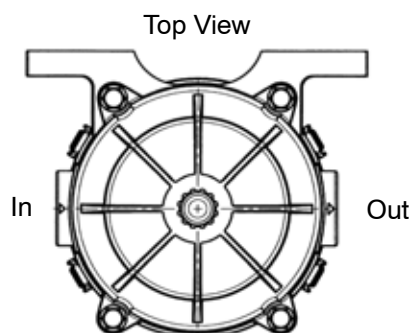


CCV8000

### Replacement Service Element

<b>CCV55222-06</b>	Service element, medium density
<b>CCV55222-08</b>	Service element, high density

### Mounting Pattern / Parts List



No Scale

#### Service:

The only routine maintenance for the Racor CCV system is replacement of the filter media. Change the element every 750 hours or every oil change. Follow instructions supplied with unit. Some variations in this occur, depending on load profile, engine wear condition, flow and aerosol mass, concentration of crankcase emissions, soot concentration, etc.

#### Parts List:

Part No.	Description	Qty.
<b>Replacement Parts</b>		
1 CCV55081	Bypass indicator replacement kit	1
2 CCV55220L	Head assembly, left side inlet	1
3 CCV55220R	Head assembly, right side inlet	1
4 CCV55223	Can assembly	1
5 CCV55080	3/8" MNPT drain check valve (shown)	1
CCV55288	#8 SAE drain check valve	1
CCV55071	Drain kit	1
6 CCV55222-06	Replacement element, medium density	1
CCV55222-08	Replacement element, high density	1

#### Inlet and Outlet Fittings

CCV55218	1 1/2" OD hose barb to 1 7/8" SAE fitting	1
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#### Hose and Fitting Kits

CCV55067	Hose kit, see CCV accessories page	1
CCV55068	Hose kit, see CCV accessories page	1
CCV55069	Hose kit, see CCV accessories page	1

#### Accessories

CCV55012	Remote crankcase pressure indicator	1
CCV55041	1 1/2" by 1 1/2" by 1 1/2" OD hose barb tee fitting	1
CCV55020	1 1/2" by 1 1/4" Bushing Reducer	1
55021	Installation and Service instructions	





# 5.0

# Utleie

## 5.1 Væskefiltrering og tørking 2



## OLJERENSENHET GA-449-4311-07

- Letthåndterlig transportabel pumpeenhet med servicevennlige "spin-on" filterelementer for rensing av oljer.
- Filterelementene finnes i filtereingsgrader fra 1 micron til 25 micron, samt med vannabsorberende medie.
- Vogn laget i rustfritt materiale for lang levetid.
- Enheten har en driftsikker luftdrevet membranpumpe, tilkoblet luftregulator og for enkelt kontroll av pumpemengde.



Kapasitet:	53 l/min ( avhenger av suge- / løfte høyde og trykkluft)
Viskositet:	5 - 350 mm <sup>2</sup> /s
Operasjons trykk:	8 Bar max
Innløps trykk:	- 0,5 bar opp til 6 Bar
Innløp:	1/2" NPT female
Utløp:	3/4" Slangestuss
Temperatur væske:	0 - 70°C
Kompressor luft:	7 Bar ( forbruk max 30 Nm <sup>3</sup> /t)
Tilkobling Luft	Hansen kupling (hann)
Anbefalt slangestørrelse:	Minimum 3/4" oljebestandig
Dimensjon:	Høyde: 1225 mm, Bredde: 520 mm, Dybde: 600 mm
Vekt:	~ 28 kg (Eks. element)

Kan leveres med suge- og trykkslanger i henhold til kundens spesifikasjoner

# DIESELRENSEENHET GA-449-4300-06

## Mobilt diesel renseaggregat

Fjerner vann og partikler fra diesel og parafin. Filtrerer partikler ned til 2 micron. Kapasitet 36 liter per minutt. Leveres med luftdrevet pumpe som standard. Kan også leveres med elektrisk pumpe.

Filterelement til dieselaggregat		
2 micron	Filterinnsats	2020 SM (brun)
10 micron	Filterinnsats	2020 TM (blå)
30 micron	Filterinnsats	2020 PM (rød)



Part no F-449-4096-96 Diesel filter unit 36 l/min

Kapasitet:	33 l/min
Viskositet:	1 - 300 cSt
Innløps trykk:	1 Bar max
Innløp:	¾" NPT male
Utløp:	½" BSP female
Utløps trykk:	6 Bar max
Temperatur væske:	0 - 120°C
Strøm:	230V, 50Hz, 1 faset
Elektrisk Kapsling	IP55
Anbefalt slangestørrelse:	Minimum 1" oljebestandig
Dimensjon:	Høyde: 1250 mm, Bredde: 520 mm, Lengde: 1250 mm

Kan leveres med suge- og trykkslanger i henhold til kundens spesifikasjoner

## UTLEIEENHET FU-002 Duplex filter skid

FILTER ELEMENT QTY:	2 X 50 EA
FILTER ELEMENT TYPE:	MAX 40" FILTER ELEMENT (DOUBLE O-RING TYPE 222) ALTERNATIVE: BAGFILTER
INLET CONN:	4" (FIG 200)
OUTLET CONN:	4" (FIG 200)
DRAIN:	1" NPT BALLVALVE
VENT:	1/4" NPT BALLVALVE
FILTER BODY:	316 SS
MAX. PRESSURE:	MAX 10 BAR
SKID:	L 2450 MM X B 1200 MM X H 2200 MM ( 2.7.1)
SWL:	2000 KG



*Data might change without further notice. For rental – please refer to Mentos General Terms of Rental*

## UTLEIEENHET HNP021

POWER:	50 / 60 HZ, 220V, 1 PH
INLET:	1" BSP FEMALE
OUTLET:	1" BSP FEMALE
NOMINAL FLOW:	20 L/MIN
MAX. VISCOSITY:	260 CST
MAX. VISCOSITY:	3000 SUS (700 cSt)
TEMPERATURE RANGE:	+60°F (15°C) to +165°F (70°C)
MAX. PRESSURE FOR INLET:	6 psi (0.4 bar)
MAX. PRESSURE FOR OUTLET:	100 psi (7 bar)
NORMAL OPERATING VACUUM:	24 in. Hg (-0.8 bar)
BODY MATERIAL:	316 SS
OVERALL DIMENSIONS:	L 1060 MM X B 620 MM X H 885 MM
DRY WEIGHT:	160 KG



**Fluid Compatibility:** Units with nitrile seals are compatible with petroleum oils.

Fluorocarbon seals are required for industrial phosphate esters and specified synthetics.

**Water Removal:** Pall fluid conditioning purifiers remove all free water, free gases, dissolved water (up to 80%) and dissolved air (up to 80%)

*Data might change without further notice. For rental – please refer to Mentos General Terms of Rental*



# 6.0

# Generell

# teknisk info.

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6.9	Hydraulikk systemdata	12

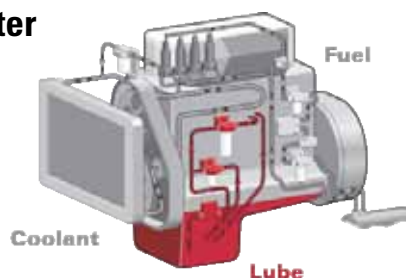
## Hvorfor opptatt av filtrering?

**Forurensing** forårsaker 70-80% av alle problemer i hydrauliske systemer og opp til 90% av alle lagerproblemer i systemer med hydrauliske væsker eller smøremidler.

## Plassering

**Filtre har to oppgaver:**

1. opprettholde kvaliteten på et produkt
2. beskytte viktige komponenter

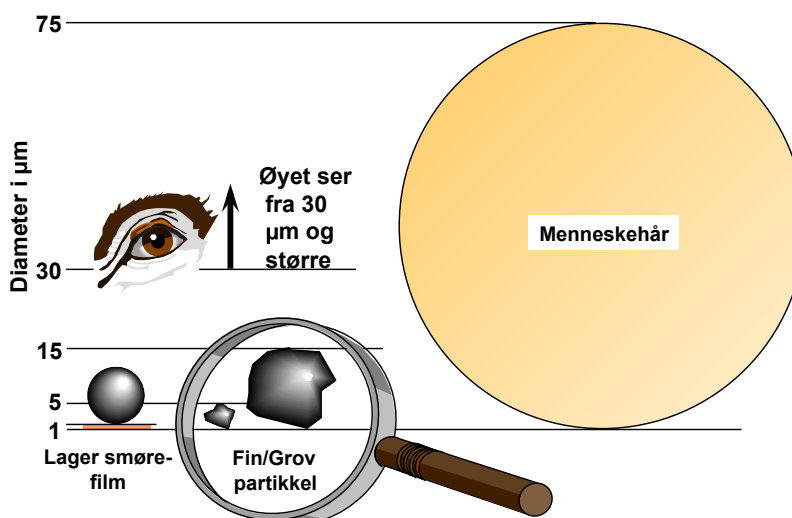


**Den mest ideelle plassering av et filter er:**

<b>I en prosess:</b>	-så nær forurensings kilden som mulig.
<b>Ved beskyttelse:</b>	-så nær kritiske komponenter som mulig
<b>Generelt</b>	-lett tilgjengelig og service vennlig.

## Partikler

**HUSK:** En normal hydraulikk olje ser ikke uren ut. Partiklene er bittesmå!



# Renhetssjekk

## – ny olje



## Anbefalte renheter for hydrauliske komponenter

Hydraulikk komponenter	Renhetsklasser iht		Anbefalt absolutt filterfinhet [µm]
	NAS 1638	ISO DIS 4406	
Tannhjulspumper	9	21/18/15	10
Sylinder	9	21/18/15	10
Retningsventiler	9	21/18/15	10
Begrensningsventiler	9	21/18/15	10
Strupeventiler	9	21/18/15	10
Aksialstempelpumper	9	21/18/15	10
Vingepumper	9	21/18/15	10
Trykkventiler	6-8	19/16/13	5
Proporsjonalventiler	6-8	19/16/13	5
Sevoventiler	4	16/13/10	3
Servosylindere	4	16/13/10	3

## Renhetsklasser

Cleanliness Level Correlation Table					
Code to ISO 4408:1988	Particles / Millilitre			NAS (1964)	Disavowed SAE Level (1963)
	>4 Micrometres	>6 Micrometres	>14 Micrometres		
23 / 21 / 18	80.000	20.000	2.500	12	-
22 / 20 / 18	40.000	10.000	2.500	-	-
22 / 20 / 17	40.000	10.000	1.300	11	-
22 / 20 / 16	40.000	10.000	640	-	-
21 / 19 / 16	20.000	5.000	640	10	-
20 / 18 / 15	10.00	2.500	320	9	6
19 / 17 / 14	5.000	1.300	160	8	5
18 / 16 / 13	2.500	640	80	7	4
17 / 15 / 12	1.300	320	40	6	3
16 / 14 / 12	640	160	40	-	-
16 / 14 / 11	640	160	20	5	2
15 / 13 / 10	320	80	10	4	1
14 / 12 / 9	160	40	5	3	0
13 / 11 / 8	80	20	2.5	-	-
12 / 10 / 8	40	10	2.5	-	-
12 / 10 / 7	40	10	1.3	1	-
12 / 10 / 6	40	10	.64	-	-



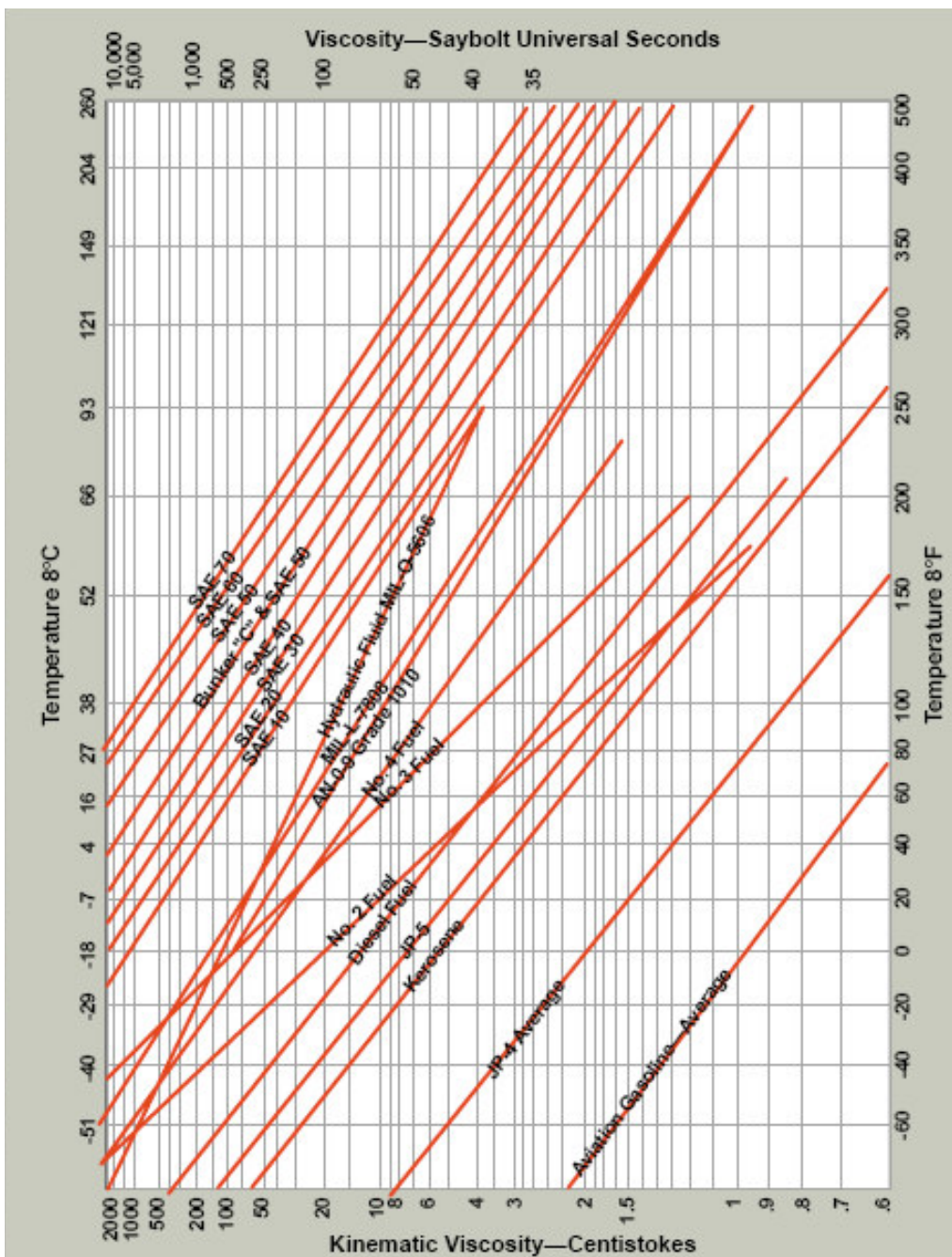
Viscosity Conversion Chart	
cSt (Centistokes)	SUS (Saybolt Universal Seconds)*
10	46
20	93
25	116
30	139
32.4	150
40	185
50	232
70	324
90	417

Compressions are made at 100°F (38°C). For other viscosity conversion approximations, use the formula:

$$cST = \frac{SUS}{4.635}$$

\*Note: Saybolt universal seconds may also be abbreviated SSU.

# Viscosity Vs. Temperature



## Filtreringsfinhet overgang

Tommer, Millimeter, Microns, Mesh

Tommer	mm	Mic	Mesh
.001	.025	25	-
.0015	.038	37	400
.002	.051	53	270
.003	.076	74	200
.004	.102	105	150
.005	.127	125	115
.006	.152	149	100
.007	.178	177	80
.008	.203	210	65
.010	.254	250	60
.012	.305	297	48
.014	.356	354	42
.016	.406	420	35
.020	.508	500	32
.023	.584	595	28

Tommer	mm	Mic	Mesh
.028	.711	707	24
.030	.762	750	-
.033	.838	841	20
.039	.991	1000	16
.046	1.168	1190	14
.049	1.245	1250	-
.055	1.397	1410	12
.059	1.499	1500	-
.065	1.651	1680	10
.069	1.753	1750	-
.078	1.981	2000	9
.089	2.261	2250	-
.093	2.362	2380	8
.098	2.489	2500	-
.108	2.743	2750	-

Tommer	mm	Mic	Mesh
.110	2.794	2830	7
.118	2.997	3000	-
.131	3.327	3360	6
.138	3.505	3500	-
.156	3.962	4000	5
.177	4.496	4495	-
.185	4.699	4760	4
.190	4.826	4825	-
.197	5.004	5000	-
.236	6.994	6000	-
.250	6.350	6355	-
.263	6.680	6730	3
.280	7.112	7115	-
.312	7.925	8000	2.5
.375	9.525	9530	-

## Dimensjon overgang

ISO	ANSI
DN 08	1/4"
DN 10	3/8"
DN 15	1/2"
DN 20	3/4"
DN 25	1"
DN 30	1 1/4"
DN 35	1 3/8"
DN 40	1 1/2"
DN 50	2"
DN 80	3"
DN 100	4"
DN 150	6"
DN 200	8"
DN 250	10"
DN 300	12"
DN 350	14"
DN 400	16"
DN 450	18"
DN 500	20"
DN 600	24"
DN 700	28"
DN 800	32"
DN 900	36"
DN 1000	40"



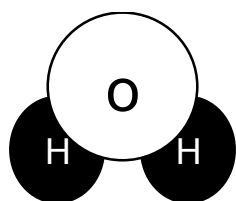
Metric Conversion Table		
cSt (Centistokes) SUS		(Saybolt Universal Seconds)*
To Convert	Into	Multiply by
Inches	Millimetres	25.40
Millimetres	Inches	.03937
Gallons	Litres	3.785
Litres	Gallons	.2642
Pounds	Kilograms	.4536
Kilograms	Pounds	2.2046
PSI	Bar	.06804
Bar	PSI	14.5
Centigrade	Fahrenheit	( $\pm 7C \times 9/5$ ) + 32
Fahrenheit	Centigrade	( $\pm 7F - 32$ ) / 1.8
Microns	Inches	.000039
Microns	Metres	.000001

TRYKKLASSE PUND X 2,4 = PSI

## Vann i olje



## Klassifisering av olje/vannblandinger



Det finnes tre faser  
av vann i olje

### Bundet vann:

Homogen blanding av vann og olje. De enkelte vannmolekylene er fullstendig omgitt av oljemolekyler.

### Fritt vann:

Over metningspunktet forbinder vannmolekylene seg med hverandre og danner dråper. Blandingen er ikke lenger homogen.

### Vann/olje - Emulsjon:

Et spesialtilfelle der det frie vannet er emulsjonen. Sjevende små vanddråper ser ut som tåke og gjør oljen ugjennomsiktig.



## Definisjoner Vann i Olje

### Metningspunkt:

- **Metningspunkt:** Den maksimale mengden vann, som ved en bestemt temperatur, kan løses opp i en væske
- Måles i ppm
- Brukes ved laboratorieanalyser

ppm

### Metningsgrad:

- Forholdet mellom reell oppløst mengde vann og metningspunktet forklart over
- Måles i %
- Brukes i online sensorer

%

## Total behandling / Total kontroll



Mento oljerensevogn kan ta fritt vann og partikler.



Filtrering fra fat til tank.



Icount partikkelteller med vannsensor.



Transportabel partikkelteller



Online vannsensor. Overvåker og gir alarm hvis det overstiger akseptert vanninnhold.

# Gjengetabell

OD mm	ID mm	Type	in.
8,00	6,92	MM	8 x 1
9,73	8,57	BSP	1/8 x 28
10,00	8,92	MM	10 X 1
10,2	8,77	NPTF	1/8 X 27
11,11	9,74	JIC	7/16 X 20
12,00	10,38	MM	12 X 1,5
12,70	11,33	JIC	1/2 X 20
13,16	11,45	BSP	1/4 X 19
13,57	11,31	NPTF	1/4 X 18
14,00	12,38	MM	14 X 1,5
14,29	12,76	JIC	9/16 X 18
15,88	14,35	SAE	5/8 X 18
16,00	14,38	MM	16 X 1,5
16,66	14,95	BSP	3/8 X 19
17,06	14,80	NPTF	3/8 X 18
18,00	16,36	MM	18 X 1,5
19,05	17,33	JIC	3/4 X 16
20,00	18,38	MM	20 X 1,5
20,96	18,63	BSP	112 X 14
21,22	18,32	NPTF	1/2 X 14
22,00	20,38	MM	22 X 1,5
22,23	20,26	JIC	7/8 X 14
22,91	20,59	BSP	5/8 X 14
24,00	22,38	MM	24 X 1,5
26,00	24,38	MM	26 X 1,5
26,44	24,12	BSP	3/4 X 14
26,57	23,67	NPTF	3/4 X 14
26,98	25,10	JIC	1.1/16 X 12
28,00	26,38	MM	28 X 1,5
30,00	27,83	MM	30 X 2

OD mm	ID mm	Type	in.
30,16	28,20	JIC	1.3/16 X 12
30,20	27,88	BSP	7/8 X 14
31,23	29,61	NPTF	1 X 11,5
33,25	30,29	BSP	1 X 11
33,34	31,40	JIC	1.5/16 X 12
36	33,83	MM	36 X 2
41,28	39,30	JIC	1.5/8 X 12
41,91	38,95	BSP	1.1/4 X 11
41,99	38,45	NPTF	1.1/4 X 11,5
42,00	39,83	MM	42 X 2
45,00	42,83	MM	45 X 2
47,63	45,80	JIC	1.7/8 X 12
47,80	44,85	BSP	1.1/2 X 11
48,05	44,52	NPTF	1.1/2 X 11,5
52,00	49,83	MM	52 X 2
59,61	56,66	BSP	2 X 11
60,09	56,56	NPTF	2 X 11,5
63,20	60,80	JIC	2.1/2 X 12
65,71	62,75	BSP	2.1/4 X 11
72,70	67,62	NPTF	2.1/2 X 8
75,18	72,23	BSP	3 X 11
87,88	84,93	BSP	3 X 11
88,61	83,53	NPTF	4 X 8
113,03	110,07	BSP	4 X 11
113,97		NPT	4 X 8
140,95		NPT	5 X 8
167,79		NPT	6 X 8
218,44		NPT	8 X 8

# Flense tabell

DN15	PN6	PN10/	PN25	ASA150	ASA300
D		95	94	88.9	95.3
k		65	65	60.3	66.7
g		45	45	34.9	34.9
Nr.		4	4	4	4
n		14	14	15.9	15.9

DN20	PN6	PN10/	PN25	ASA150	ASA300
D		105	105	98.4	117.5
g		58	58	42.9	42.9
k		75	75	69.9	82.5
Nr.		4	4	4	4
n		14	14	15.9	19

DN25	PN6	PN10/	PN25	ASA150	ASA300
D		115	115	108.0	123.8
g		68	68	50.8	50.8
k		85	85	79.4	88.9
Nr.		4	4	4	4
n		14	14	15.9	19

DN32	PN6	PN10/	PN25	ASA150	ASA300
D		140	140	117.5	133.4
g		78	78	63.5	63.5
k		100	100	88.9	98.4
Nr.		4	4	4	4
n		18	18	15.9	19

DN38	PN6	PN10/	PN25	ASA150	ASA300
D		150	150	127.5	155.6
g		88	88	73.0	73.0
k		110	110	98.4	114.3
Nr.		4	4	4	4
n		18	18	15.9	22.2

DN50	PN6	PN10/	PN25	ASA150	ASA300
D		140	165	15.4	165.1
g		90	102	92.1	92.1
k		110	125	120.7	127.0
Nr.		4	4	4	8
n		14	18	19	19

DN65	PN6	PN10/	PN25	ASA150	ASA300
D	160	185	185	177.8	190.5
g	110	122	122	104.8	104.8
k	130	145	145	139.7	149.2
Nr.	4	4	8	4	8
n	14	18	18	19	22.2

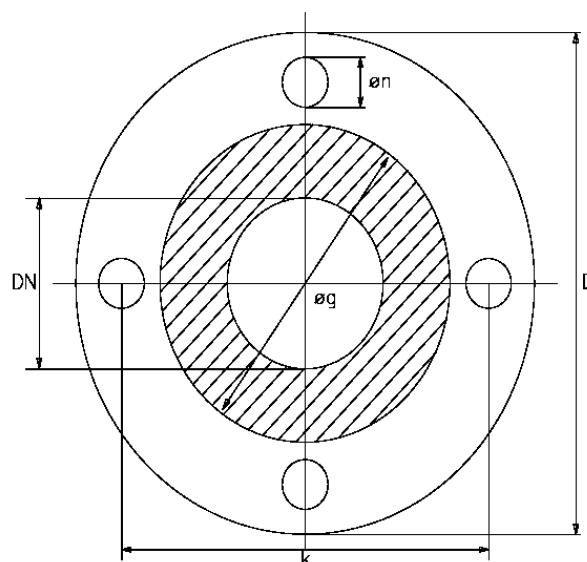
DN80	PN6	PN10/	PN25	ASA150	ASA300
D	190	200	200	190.5	209.6
g	128	138	138	127.0	127.0
k	150	160	160	152.4	168.3
Nr.	4	4	4	4	4
n	18	18	18	19	22.2

DN100	PN6	PN10/	PN25	ASA150	ASA300
D	210	220	235	228.6	254.0
g	148	158	162	157.2	157.2
k	170	180	190	190.5	200.0
Nr.	4	8	8	8	8
n	18	18	22	19	22.2

DN125	PN6	PN10/	PN25	ASA150	ASA300
D	240	250	270	254.0	279.4
g	178	188	188	185.7	185.7
k	200	210	220	215.9	235.0
Nr.	8	8	8	8	8
n	18	18	26	22.2	22.2

DN150	PN6	PN10/	PN25	ASA150	ASA300
D	265	285	300	279.4	317.5
g	202	212	218	215.9	215.9
k	225	240	250	241.3	269.9
Nr.	8	8	8	8	12
n	18	22	26	22.2	22.2

DN200	PN6	PN10/	PN25	ASA150	ASA300
D	320	340	340	342.9	381.0
g	258	268	242	269.9	269.9
k	280	295	295	298.5	330.2
Nr.	8	8/12	12	8	12
n	18	22	26	22.2	25.4



Nr. = Number of Bolts



## Prosess filtrering – elementer



A Style 223 o-rings



E Style 222 o-rings



J Style S.O.E.



A Style 223 o-rings



B, L Style Flat Gaskets



F Style 216/218 o-rings



K Style 214 o-rings  
(Internal)



B, L Style Flat Gaskets



C Style 226 o-rings



G Style 222 o-rings



M, N Style 214/213 o-rings  
(Internal)



C Style 226 o-rings



D Style 222 o-rings



H Style  
54mm ID x 4mm o-rings



P Style 227 o-rings



D Style 222 o-rings



T Style 126 o-rings  
(Demi Only)



Z Style 116 o-rings  
(Internal) (Demi Only)



W Style 111 o-rings  
(Demi Only)



**Autoclave Vent  
Filter Endcaps**



X Style 116 o-rings  
(Demi Only)



X Style 1/2" NPTM  
Thread & Gasket



Y Style 116 o-rings  
(Internal) (Demi Only)



V Style BSPP  
Thread & Gasket



# Kritiske kriterier ved valg av nye filterløsninger

## Prosess data

- **Medium**
- **Partikler**
- **Partikkelinnhold**
- **Tetthet væske**
- **Tetthet partikler**
- **Viskositet ved operasjonstemperatur**
- **Kjemiske sammensetninger**
- **Operasjonstemperatur**
  - 1. Normal
  - 2. Maks
- **Operasjonstrykk**
  - 1. Normal
  - 2. Maks
- **Strømningsmengde l/min.**
- **Partikkelstørrelse**

## Filterdata

- **Materiell filterelementer**
- **Materiell filterhus**
- **Materiell pakning**
- **Tilslutning**
- **Innløp/utløp**
- **Avløp**
- **Luftekanal**
- **Posisjonering**
- **Suge/avløps pumpe**

### Maks trykkfall:

- 1. Rent filter element
- 2. Skitten filter element
- **Påkrevet testing**
- **Påkrevet dokumentasjon**

# Hydraulikk systemdata

Company	:	_____	Customer-no.	:	_____
Address	:	_____	Date	:	_____
	:	_____		:	_____
Phone	:	( ) _____	Customer contact	:	_____
Fax	:	( ) _____		:	_____

**Filter parameter:**

Installation type	=	return line	:	tank mounted	<input type="checkbox"/>	in-line mounted	<input type="checkbox"/>
		pressure side	:	in-line mounted	<input type="checkbox"/>	flange mounted	<input type="checkbox"/>
		suction side	:	tank mounted	<input type="checkbox"/>	in-line mounted	<input type="checkbox"/>
Filter type	=	Single filter	<input type="checkbox"/>	Duplex filter	<input type="checkbox"/>		

Flow rate	:	_____	l / min
Operating pressure	:	_____	bar
Filtration rate	:	_____	micron
Medium (e.g. ISO VG 46; HLP 36)	:	_____	
Viscosity	:	_____	cst at _____ ° C
Operating temperature	:	_____	° C
Start temperature	:	_____	° C
Max. all. pressure diff. delta p at clean condition	:	_____	bar
Connection type	:	_____	

Clogging indicator	:	visual	<input type="checkbox"/>	electrical	<input type="checkbox"/>	visual / electrical	<input type="checkbox"/>
		electronical	<input type="checkbox"/>	design	_____		

Sealing material	:	Perbunan	<input type="checkbox"/>	Viton	<input type="checkbox"/>	others	:	_____
------------------	---	----------	--------------------------	-------	--------------------------	--------	---	-------

Housing material	:	_____	element material (metal parts)	:	_____
------------------	---	-------	--------------------------------	---	-------

Pressure balance valve	:	yes <input type="checkbox"/>	no <input type="checkbox"/>
------------------------	---	------------------------------	-----------------------------

Regulations rsp. shipyard classification societies (e.g. acc. to API / GL etc.)	:	_____
---	---	-------

Inspection of	:	_____
---------------	---	-------

Drainage connection (tap)	:	yes <input type="checkbox"/>	no <input type="checkbox"/>
---------------------------	---	------------------------------	-----------------------------

De-aeration connection (tap)	:	yes <input type="checkbox"/>	no <input type="checkbox"/>
------------------------------	---	------------------------------	-----------------------------

Additional demands / remarks	:	_____
------------------------------	---	-------



# 7.0 Mento miljøprodukter

7.0	Index	2
7.1	Olje og kjemikalie absorbenter	3
7.2	Lenser og oljesanering	12
7.3	Spillberedskap	13
7.4	Fathåndtering	17

## 7.0 Mento miljøprodukter

Materiell for å bevare og beskytte miljøet.

### 7.1 Olje absorbenter. Absorberer mineralbaserte væsker.

**Universal absorbenter. Absorberer olje, vann, kjemikalier og emulsjoner.**



Puter



Pølser



Matter



Granulat



Fatmatte



Ruller

### 7.2 Lenser og oljesanering



Oljelense

### 7.3 Spillberedskap



Beredskapsbokser



Beredskapsbager



Brønntettnng

### 7.4 Fathåndtering



Fatbeskyttelse



Fatbeholder



Fattralle

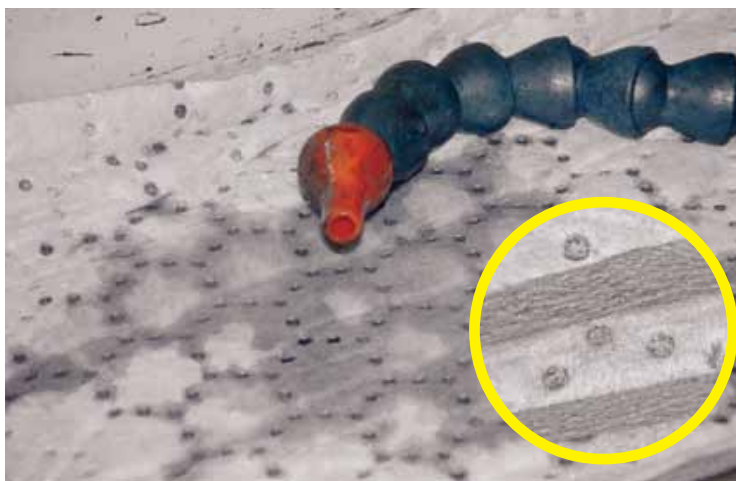


Fatlokk



IBC-håndtering

## HexaDyn® – setter ny standard for oppsugende material. Ett homogent tjockt material i alle produktene.



HexaDyn er resultatet av mange års erfaring og arbeid, den baseres på en ny teknikk som vi utviklet og patentert. Utgangspunktet har vært å kunne ta hånd om store mengder væsker av ulike slag, dette uavhengig av om lekkaget kommer oppifrån eller spres seg ut på et gulv.



HexaDyn O (Oil-only) – Sugrer alle typer av oljer, drivmedel og alkoholer men tar ikke til seg vann.

HexaDyn U (Universal) – Sugrer alle typer av kjemikalier, glykoler, syrer, vann men også oljer.

### HexaDyn – betyr lang levetid!

HexaDyn har fått et unikt mønster i form av en Hexagon i punktform. Punktene former små trakter som raskt tar hånd om væsken, for å deretter la den spre seg jevnt over i kjerne. Motsatte siden har en slatt yta som gir en stor kontaktyta som like raskt tar til seg spill fra underlaget.

HexaDyn trengs i alle typer av virksomheter der væsker håndteres, fra storkjøk, verksteder og industrier – til oljerigg. HexaDyn tåler utfordringer!



HexaDyn finnes som ark i 2 størrelser, samt spärr i praktisk dispenserbox.



Spärren er veldig anvendbar for å forhindre ulike lekkasjer. Den kan eksempelvis lindes og tejpas rundt rør der flenser ikke er tettet.



Spärren klippes enkelt av for å få den størrelsen man trenger. Her rundt en maskin.



HexaDyn Spärr kan fungere som et raskt stopp ved brønner.

Spesifikasjon	Art.nr	Dimensjon	Antal/förp	Absorberer
HexaDyn U-Dyna stor grå	1001258020	36 x 47 cm	18 st	4 lit/dyna
HexaDyn U-Spärr grå	1001258024	13 cm x 14 m	3 ruller	34 lit/spärr

**Punktmatta U - är slitstark och klarar spill från emulsioner, lösningsmedel, syror och andra aggressiva kemikalier, men tar också upp oljor.**



PUNKTMATTA U är tillverkad av polypropenfiber med rätt längd och diameter.

Vi har behandlat fibern för att den skall ta åt sig alla typer av vätskor. Den tar även upp vatten. Polypropen har en annan unik egenskap, den är svårantänd.

PUNKTMATTA U tar snabbt upp spill både från både golv och dropp. Finns i gult och grått och är värmepräglad vilket gör att den luddar mindre och är starkare att gå på.



5009-P är ett utmärkt embal-lageskydd för ex flaskor.



PUNKTMATTA U finns med urstansningar för 200 lit fat.



*Alla  
ark och  
rullar har  
perforering*

Punktmatta är utmärkt att ha på arbetsbänken och lägga verktyg på.



Specifikation	Art.nr	Dimension	Antal/förp	Abs.kap
PUNKTMATTA U Ark tunt gult perf.	100125009	53 x 39 cm	200 st	0,5 lit/ark
PUNKTMATTA U Ark tjockt gult perf.	100125010	53 x 39 cm	100 st	1 lit/ark
PUNKTMATTA U Rulle gul perf.	100125011	52 m x 80 cm	1 st	4,5 lit/lpm
FATMATTA U topp grå	100125023	Diam 56 cm	25 st	3 lit/matta



**Punktmatta O - är utmärkt vid läckage och spill från petroleumprodukter, men också från naturliga oljor, en slitstark matta som blivit klassisk.**



Punktmatta O har under åren utvecklats till marknadens mest använda absorberer för petroleumbaserade vätskor. Den är tillverkat av polypropenfiber med rätt längd och diameter. Den har bevisat sin överlägsna slitstyrka liksom uppsugningsförmåga och används både i inre och yttre miljö.

Punktmattan tar inte åt sig något vatten, varför den flyter på vatten även när den är mättad med olja.

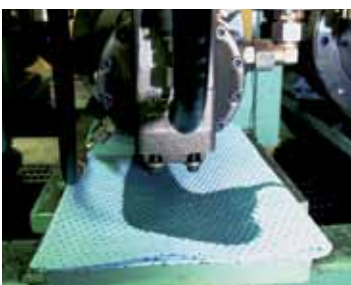
De 1000 tals små punkterna (därav Punktmatta) som vi värmepräglar, ger en snabb uppsugningshastighet oavsett om vätskan droppar ner eller suges upp från en golvyta.



Punktmatta är utmärkt att lägga på arbetsbord.



Alla ark och rullar har perforering



Punktmattan är mångsidig i användning



Punktmatta O är en klassiker inom bl.a. oljeindustrin



Specifikation	Art.nr	Dimension	Antal/förp	Abs.kap
PUNKTMATTA O Ark tunt blått perf.	100127001	53 x 39 cm	200 st	0,5 lit/ark
PUNKTMATTA O Ark tjockt blått perf.	100127002	53 x 39 cm	100 st	1 lit/ark
PUNKTMATTA O Rulle tjock blå perf.	100127004	52 m x 80 cm	1 st	4,5 lit/lpm
PUNKTMATTA O Rulle tjock blå perf.	100127005	52 m x 40 cm	2 st	2,2 lit/lpm

**Texlan® – förenar alla behov i en stark, säker och flexibel produkt. Perforering i två riktningar och slitskikt på båda sidorna.**



Några av de mera utmärkande egenskaperna hos Texlan® är

- Luddfritt
- Fastnar inte i oljiga betonggolv
- Slitstarkt på två sidor
- Perforering ger enkel hantering
- Utmärkt absorption

Texlan® finns i två utföranden: O – Grönt som enbart suger oljor och drivmedel och flyter på vatten även mättad med olja

U – Grått som suger alla typer av kemikalier men också vatten och exempelvis glykolbaserade hydrauloljor

Specifikation	Art.nr	Dimension	Antal/förp	Abs.kap
TEXLAN O Rulle tjockt, grönt	1001273884	36 m x 50 cm	1 st	4,5 lit/lpm

**Kuddar och ormar finns i tre olika utföranden, Bas, Kem och Oil-Only. Alla med ett gemensamt, en liten insats ger stort resultat.**



Art.nr 100122007

Art.nr 100122007

Bas produkterna används till vatten, emulsioner, oljor och andra icke aggressiva vätskor.



Art.nr 100126004

Till höger

KEM Invallningsormarna har velcrokoppling.

Till vänster

Oil-Only produkterna flyter på vatten även mättade med olja.



Art.nr 100125024



Art.nr 100126017

Till höger

Kem används till alla typer av syror och aggressiva kemikalier.

Till vänster

Minilänsa som är praktisk att ha i brunnar, tar snabbt upp diesel, bensin och oljor.



Art.nr 100125004

Specifikation	Art.nr	Dimension	Antal/förp	Abs.kap
Kem Orm	100125003	7,5 x 120 cm	20 st	4 lit/st
Oil - Only Orm	100126003	7,5 x 120 cm	20 st	4 lit/st



## FloatAbsorb - en termiskt behandlad torv för sanering av diesel, olje- och bensinutsläpp på mark och i vatten men även inom industrin.



Floatabsorb är ett oljeabsorberande granulat som är en ren naturprodukt. Det fungerar lika bra till mark som vattensanering och flyter på vatten. Inga kemiska tillsatser finns i produkten. Fukthalten är ca 4 % så det finns ingen risk för mögel.

Upptagningen av t.ex. diesel och bensin i Float-absorb kan följas genom att färgen ändrar sig till svart. Absorptionsförmåga - beroende på olja och temperatur ca 1,5 - 2 ggr sin egen vikt.

Flytförmåga - upp till 5 - 6 dygn ibland längre, beroende på mekanisk påverkan m.m. En del sjunker fortare beroende på innehåll av mineraler. Finns lösningsmedel eller tensider i vattnet löser dessa upp det skyddande hartsskiktet och fyller granulen med vatten.

Belastningstryck - max belastning 280 kPa/cm<sup>2</sup>. Vid detta tryck håller Floatabsorb fortfarande kvar oljan.

Torv bryts rationellt och effektivt. Sverige är ett torvrikt land. Ca 25% av ytan är torvmark och mindre än en halv procent används idag. Efter avslutad produktion har man på flera håll tillskapat nya våtområden.

Floatabsorb är utmärkt vid spill i bl.a. naturen.

Bör ej användas till - terpentin, linolja och andra torkade oljor som kan självantända efter absorption i organiska produkter, skall ej användas till starka syror.



Float Absorb har visat sin överlägsna förmåga vid stora tankbilshaverier.

Specifikation;	Art.nr	Förp	Ant/pall	Vikt/förp	Abs.kap
FloatAbsorb granul	100123201	Säck ca 30 lit	27 st	ca 10 kg	Se ovan

## KALLAK TORVBLANDING

### PRODUKTBEKRIVELSE

Kallak Absorbent er et biologisk nedbrytbart naturprodukt basert på torv og treflis.

Produksjonen foregår i egen fabrikk med torv fra egen myr.

En særdeles hurtig og effektiv absorbasjonsevne kjennetegner Kallak Absorbent.

Produktet har ingen slipende effekt og er meget lett å fjerne da det nærmest kapsler inn oljespillet.

Brukes effektivt på mineraloljer, syntetiske oljer, matoljer, bensin og andre petroleumsprodukter, maling, lakk, blod, urin, avskjæringsvæsker, kjølevæsker, bremsevæske mf.

Egenskapene til Kallak Absorbent opprettholdes også ved fanging av olje på vann.

Produktet er ikke tilsatt noen form for kjemikalier.

Kallak Absorbent antennes ikke av åpen flamme, men brenner naturligvis etter absorbering av brennbar væske.

Kallak Absorbent leveres i 16 L "pølse"/sekk (som er meget praktisk i tankbiler, sugebiler, vaktbiler ol da den er lett å plassere og lukkes mellom hver gang den brukes)- og i 80 L sekk og Stor-Sekk på 1,4 m<sup>3</sup>.

Kallak Absorbent lagres tørt og frostfritt. Håndteres som vanlig avfall inneholdende inntil 10% olje. Med større andel oljeinnhold håndteres avfallet som brannfarlig avfall.



### VAREDEKLARASJON

<b>Varetype:</b>	Naturtorv
<b>Torvart:</b>	Spagnum
<b>Omdanningsgrad:</b>	Lite-middels
<b>Findelingsgrad:</b>	Middels-grov
<b>Bruksdensitet:</b>	Ca 70 kg/m <sup>3</sup>
<b>Bruksvolum:</b>	Ca 80 L/pakning
<b>Tørrestoff:</b>	Ca 85 kg/pakning
<b>Askeinnhold:</b>	Mindre enn 5%
<b>Ph:</b>	Ca 5
<b>Tilsetting:</b>	Kalkdolomitt, kutterspon
<b>Egenskaper:</b>	Hurtigvirkende absorbent til petroleumsprodukter, glykol, matolje, maling, lakk, blod, avskjærvæsker osv.
<b>Oppbevaring:</b>	Tørt og frostfritt

Spesifikasjoner;	Art.nr	Förp	Ant/pall	Vikt/förp	Abs.kap
KALLAK torvblanding	100128036	Säck ca 80 lit	33 st	ca 25 kg	Se ovan

## Magic Wet Wipes – en universal rengjøringsduk til flere behov. Enkel å bruke – uten vann eller såpe

Magic Wet Wipes til allsidig bruk, den tar bort olje, fett, tjære, sot m.m. Kan også brukes på arbeidsflater, kjøretøy og verktøy.



Et unikt håndrengjøringssystem uten bruk av vann. Produktet er en kombinasjon av rengjøringsvæske av høy kvalitet og en myk "non-Woven" absorberende duk. Bortsett fra vanlig urenheter så er Magic Wet Wipea ekstremt effektivt mot olje, fett, tjære, trykksverte, kvaie, asfalt, farge, lim, fugemasse og mange andre vanskelige emner.

Magic Wet Wipea er effektiv samtidig som den er skånsom, "skrubber" hendene rene selv i dype hudfolder og er samtidig smørende.

### Noen eksempler på Magic Wet Wipes allsidighet



Effektiv på petroleumsprodukter



Effektiv på sot



Effektiv på bremsebelegg



Effektiv på oljer

#### Spesifikasjoner Magic Wet Wipea:

Art.nr. 572001	Farge	Duker/dispenser	Ant. dispenser/fp	Størrelse/duk
Magic Wet Wipea	Blå	75	6	30 x 27 cm

**Big Grip er enkel å bruke og lett å ta med. Holder tørkedukene rene og tørre. Big Grip kan brukes om og om igjen. Big Grip Refill fungerer bra som "stand alone"!**



DRC dukene er basert på returfiber uten å gjøre avkall på funksjon, de suger raskt og er dessuten behagelige for både mennesker og maskin. Uansett kvalitet er rullene perforert for å gi god økonomi. Big Grip er lett å ta med seg over alt, den er dessuten gripevennlig. Big Grip er vanntett og beskytter tørkedukene inn til siste duken. Fleksibel og lett å ta med, eliminerer behovet for rullestativ, Big Grip er hygienisk – alltid ren tørkeduk.

**Spsifikasjoner Shop Towel:**

Art.nr. 57555208 Shop Towel Big Grip	Farge Hvit&blå	Tørkeduker/rulle 200	Ruller/fp 2	Størrelse/tørkeduk 25 x 33 cm
Art.nr. 57555207 Pit Crew Refill	Farge Hvit&blå	Tørkeduker/rulle 200	Ruller/fp 6	Størrelse/tørkeduk 25 x 33 cm



## Oljelänsor i olika storlekar för akuta insatser.



Oljelänsa 312 och 520 används normalt för akuta insatser när olja eller bränsle läckt ut. Alla länsorna har ett ytterhölje som är finmaskigt och flexibelt. Fyllningen består av 100% polypropen-fiber. Oljelänsan lämpar sig för användning i vatten så väl som på land runt cisterner eller vid tankbilshaverier.



Sammankoppling av oljelänsorna sker via en förstärkningstamp och kopplingar i båda ändar. Sammankoppling sker omlott vilket gör det möjligt att byta enskilda länsor utan att bryta "oljespärren". En ny länsa kopplas på vid det ställe där byte behöver ske. Så fort den nya är på plats, kopplas den mättade bort.



Länsor har en stor användning inom industrin.

Specifikation	Art.nr	Dimension	Antal/förp	Abs.kap
Oljelänsa 520	100126015	500 x 20 cm	2 st	100 lit/st

## Beredskapsbox 295 en robust box för placering både inom- och utomhus, den har hjul, låsbart lock och gaffelurtag som standard.

Beredskapsbox295 är "storebror" i vårt program av boxar. 4 st rejäla hjul som alla är svängbara, varav två också är låsbara. Locket har ett överfall runt om, vilket förhindrar att regn slår in i den. Locket är låsbart. Precis som alla våra andra plastprodukter så använder vi endast nya PE-polymerer, detta för att säkerställa bredast möjliga resistens mot kemikalier. (Återvunnen PE-plast ger inte samma skydd).

Som bilden visar den finns det två rejäla urtag för truckgafflarna vilket ger ett säkert lyft.



Beredskapsbox295 finns i två standard utförande, oil-only och universal.

I oil-only utförande ingår följande produkter;

- 36 st HexaDyn O-Dyna stor
- 1 rulle HexaDyn O-Spärr längd 14m x 13 cm
- 200 st Tunna smidiga ark 39x53cm som är perforerade
- 2 st Invallningsormar med velcrobånd 7,5x250cm
- 2 par skyddshandskar
- 2 kraftiga avfallssäckar

Total uppsugningsförmåga 295 liter



Kraftiga gångjärn som inte rostar och ett lås på locket som förhindrar att locket far upp vid blåst.

Specifikation	Art.nr	Dimension LxBxH	Vikt
Beredskapsbox Oil Only 295	10012901229501	88 x 88 x 95cm	42kg
Beredskapsbox Universal 295	10012901429501	88 x 88 x 95cm	42kg

## Beredskapsbox 215 – en mycket stark beredskapsbox med 3 rejäla gångjärn i locket.



Boxen är lätt att placera ut på lastkajer eller liknande platser.

Beredskapsbox 215 är mycket lämplig för utomhusplacering genom bl.a. sitt starka lock.



Handtag i sidorna.



Våra HD absorbenter är standard.



3 st gångjärn som ger stor styrka.



Ordentliga lås med säkerhetsspärr så att låsen inte öppnas av misstag. Går att komplettera med hänglås.

Vi har två standard utrustningar

Utförande O - är endast oil-only produkter

Utförande U - är endast universal/kem produkter

Följande ingår

- 50 st HD ark 40x50 cm, extra tjocka (5008/7013)
- 20 st Punktmatta ark 53x39 cm (5009-P /7001-P)
- 6 st Invallningsormar med kardborrkoppling 2,5mx7,5 cm (5024/7024)
- 2 par Handskar
- 2 st Avfallsäckar

Total uppsugningsförmåga 215 liter

Specifikation	Art.nr	Dimension LxBxH	Vikt
Beredskapsbox Oil Only 215	10012901221501	120 x 60 x 54 cm	18 kg
Beredskapsbox Universal 215	10012901421501	120 x 60 x 54 cm	18 kg

## SmartCart – flexibel och flyttbar servicevagn som är lätt att hantera.



Art.nr 10012901236201

Smartcart med rullhållare är tillverkad i ett kraftigt polyetenmaterial. Det är en robust servicevagn som är lämplig både för inom- och utomhusbruk. Passar för rullar som har en max diameter på höjd 55 cm och en bredd på 52 cm.

Som standard är SmartCart utrustad med Universal-Kem absorbenter för alla typer av spill. Den borde vara standard och finnas till hands vid all godshantering av kemikalier. Den passar också utmärkt att användas vid servicearbete på maskiner inom industrin, lätt att förflytta och har dörr med lås. SmartCart är tillverkad av en stark polyetenplast. Smartcart har en praktisk avställningsyta överst som kan användas till verktyg m.m, i botten på vagnen finns en sump.

Vagnen på bilden till höger är utrustad med följande innehåll;

- 1 vagn utan rullhållare
- 100 tjocka ark, grå
- 6 st ormar
- 6 st HexaDyn Dynor U
- 20 st Flexitork
- 1 par handskar
- 6 st avfallssäckar

Total uppsugningsförmåga 138 lit



Art.nr 1001290142000

Vagnen på bilden ovan är utrustad med följande innehåll;

- 1 vagn med rullhållare
- 120 HexaDyn O-Dyna liten
- 18 st HexaDyn O-Dyna stor
- 1 rulle Punktmatta O tunn

Total uppsugningsförmåga 362 lit

## SANERINGSVAGN - ett praktiskt hjälpmedel när man använder granulat som absorbent.



Saneringsvagnen är lätt att manövrera. Precis som våra övriga PE-produkter är den kompatibel med ett brett spektra av kemikalier. Fyll den med något av våra granulat eller varför inte salt för utomhusbruk vintertid. Absorbent som använts sopas upp och läggs i avfallssäcken som hålls på plats med klämmorna. Vagnen har hållare för kvast och skyffel.

*OBS Skyffel och kvast ingår ej!*

Specifikationer	Art.nr	Format LxHxB
SMARTCART Servicevagn	10012901236201	65 x 72 x 155 cm
SMARTCART Basic Universal	1001290142000	64 x 75 x 102 cm
SMARTCART Service XL med hjul	100129501362	65 x 72 x 155 cm Vagnen är tom
SANERINGVAGN	100129014307	136 x 71 x 96 cm



## Brunnstät för större brunnar är ett enkelt sätt att förhindra miljöproblem och dyrbar sanering.



Drivmedel och olja i dagvattenbrunnar ställer till stora problem, oftast rinner detta rakt ut i sjöar och vattendrag.

Med Brunnstät är det enkelt att tätta brunnar när man misstänker att olje- eller kemikalieutsläpp kan ske.

Enkel att applicera med ett fjäderbelastat handtag, har lång livslängd.

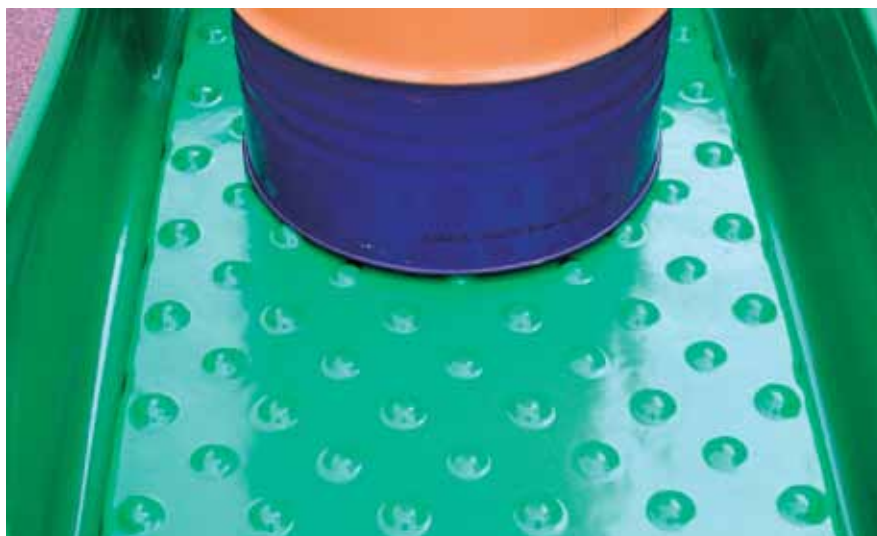
Tätningmaterialet är 32 mm tjockt och 70 mm brett vilket gör det möjligt att fånga upp ojämnheter i mark eller mindre stenar.



Brunnstät är så stor att tätningslisten går utanför brunnen, vilket har stor betydelse om det finns sprickor mellan asfalten och brunnssargen.

Specifikationer	Art.nr	Ant/förp	Vikt/frp	Mått och andra uppgifter
Brunnstät	1001290690	1 st	5 kg	Lock ytter inkl tätningslist 54x54 cm. Lock inner exkl tätningslist 40x40 cm. Tätningslist är 7 cm bred, tjocklek 32 mm. Utbytestätningslist kan beställas. Handtag fjäderbelastat med 25 kp. Diam. fästkrok 9 mm. Öppning krok 25 mm.
Vägghållare	1001290690-Hållare	1 st		

## Spilguard® är originalet – en flexibel lösning, den bygger på det enkla konceptet att pallen redan finns.



Faten kan ställas direkt i Spilguard vid behov.

”Sump”-kapacitet ca 270 lit med 4 fat och ca 230 lit med 2 fat. Enkel att tömma på spill och lätt att rengöra, ingen gallerdurk eller ”äggfacks” konstruktion i botten som traditionella spillbaljor i hårdplast har.



Regnvatten på fat är en vanlig syn som kan bli kostbar när temperaturförändringar gör att vattnet kan dras in genom pluggarna och fördärvar dyrbara oljor eller kemikalier.



Lätt att hantera, endast 18 kg. Spilguard 2 används på pall 80x120 cm och Spilguard 4 på pall 100 x 120cm. Spilguard har en unik frontbälg som gör in- och urlastning enkel. Ger ett säkert skydd mot oförutsedda spill. Lämplig som skydd under transporter liksom för lagring både utomhus och inomhus. Spilguard ger bra arbetshöjd för fat, botten är endast 150 mm från golvet.

Spilguard är tillverkad av 100% UV stabiliserad LLD PE och tål temperaturer mellan -40°C till +70°C. Den är resistent mot de flesta kemikalier.

Specifikationer;	Art.nr	Dimension LxBxH	Sump	Vikt/förp
Spilguard 2 fat	100129014420	120 x 150 x 44 cm	230 lit	16 kg
Spilguard 4 fat	100129014480	130 x 150 x 44 cm	270 lit	18 kg

**Fattratt, ett måste vid återfyllning av olika vätskor på fat. Dessutom ett utmärkt regnskydd.**



Fattratt är ett praktiskt hjälpmedel när man skall tömma spilloljor och andra kemikalier i ett fat.



I botten finns rillor som gör att man enkelt kan ställa filter, flaskor eller andra kärl för självtömning. Tillverkad i HD polyeten och resistent mot ett brett spektra av kemikalier.



Locket går ner över kanten och förhindrar att regnvatten kommer ner i fatet när man vill ha fatet utomhus.

Specifikationer;	Art.nr	Dimension	Ant/förp	Vikt/förp
Fattratt med lock	100129014205	Passar till 200 lit fat ytterdiam 54 - 60 cm	1 st	6 kg



## IBC tratt, ett praktiskt hjälpmedel när IBC eller liknande används för spillolja eller andra vätskor.



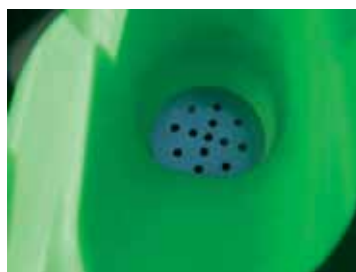
Så kallade IBC container är mycket vanliga och ofta används de till att samla in spilloljor eller andra kemikalier som skall till destruktion.

För att underlätta påfyllnad och avrinning från dunkar och kärl har vi utvecklat en speciell tratt som sätts ovanpå containern.

Till samtliga IBC trattar följer ett lock som är löst, orsaken till detta är att IBC container ofta förvaras utomhus och ett lock med gångjärn hade blivit ett stort vindfång.



I avrinningshålet har vi en hålplåt som förhindrar att föremål större än 6 mm kan följa med vätskan.



Specifikationer;	Art.nr	Dimension	Ant/förp	Vikt/förp
IBC Tratt med lock	10012901420510	D60 x H35 cm. Passar till de flesta IBC	1 st	10 kg

## Praktiska Fatlock och Uppsamlingsstråg i olika utföranden för olika behov.



Fatlock har ett praktiskt gångjärn som fäst till fatet med hjälp av spännringen som fatet har. När fatet är fullt ta av Fatlocket och montera på ett nytt fat. Praktisk på verkstäder.

## Öppna fatrattar



Till vänster

1001290143342

Fattratt 200 diam 56 cm, höjd 15 cm

Till vänster

Art.nr 1001290145493

Fattratt 60 diam 39 cm, höjd 16 cm

Nedan

10012901420553

Flottör som varnar när nivån i fatet är full.



## Hand-/Spilltråg

Våra Spilltråg är tillverkade av polyetenplast och har handtag som gör det lätt att balansera även fulla med olja.



Art.nr 1001290146892 / 20 lit

Art.nr 1001290146891 / 55 lit



Art.nr 1001290147908 / 58 lit



Art.nr 1001290147907 / 17 lit



Art.nr 1001290147906 / 16 lit

Specifikationer;	Art.nr	Dimension LxBxH	Sump
Fatlock med gångjärn	10012901420564	Passar till 200 lit ringlåsfat	
Flottör	10012901420553		
Fattratt 200	1001290143342	Passar till 200 lit sprundfat	
Fattratt 60	1001290145493	Passar till 60 lit sprundfat	
Spilltråg 20	1001290146892	65 x 40 x 10 cm	20 lit
Spilltråg 55	1001290146891	100 x 70 x 10 cm	55 lit
Spilltråg stängbar	1001290147908	92 x 60 x 25 cm	58 lit
Spilltråg stängbar	1001290147907	69 x 53 x 18 cm	17 lit
Spilltråg	1001290147906	58 x 47 x 16 cm	16 lit

## Fattallrik för 200 lit fat eller mindre dunkar.

Fattallriken kan levereras både med och utan vagn. Vagnen klarar upp till 200 lit fat. Vagnen underlättar när fat skall flyttas.

Utöver att förvara 200 lit fat i tallriken, så kan man givetvis även ha mindre dunkar. Material polyeten.



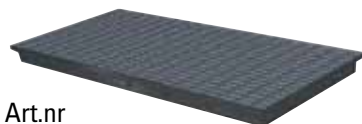
Art.nr 100129014310



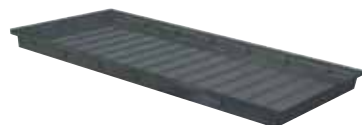
Art.nr 1001290143109

Specifikationer;	Art.nr	Dimension	Ant/förp	Sump lit
Fattallrik	100129014310	Diam Topp 90 cm Diam Botten 70 cm Höjd 20 cm	1 st	50 lit med fat lastat
Fattallrik med ram och hjul	1001290143109		1 st	

## Spilltråg lätta att placera under maskiner som läcker eller för att förvara mindre dunkar på.


Art.nr 1001290147872  
Tråg med gallerduk i VFZ.

Art.nr 100129014206-TTXS  
Spilltråg XS

Art.nr 100129014206-TTS  
Spilltråg S

Art.nr 1001290147871  
Tråg utan gallerduk.

Art.nr 100129014206-TTL  
Spilltråg L

Art.nr 100129014202-TTHD  
Spilltråg Fat

Specifikationer;	Art.nr	Dimension	Ant/förp	Sump	Vikt/förp	Max belastning
Spilltråg – utan gallerduk	1001290147871	L130 x B62 x H8 cm	1 st	40 lit	5 kg	
Spilltråg – med gallerduk	1001290147872	L130 x B62 x H8 cm	1 st	40 lit	16 kg	50 kg
Spilltråg Fat	100129014202-TTHD	L146 x B96 x H12 cm	1 st	145 lit	20 kg	
Spilltråg L	100129014-206TTL	L145 x B84 x H7 cm	1 st	60 lit	6 kg	
Spilltråg S	100129014206-TTS	L63 x B59 x H17 cm	1 st	45 lit	4,5 kg	
Spilltråg XS	100129014206-TTXS	L59 x B39 x H5 cm	1 st	11 lit	2,5 kg	

## Fatkärror i olika utföranden för 200 lit fat och dunkar.



Art.nr 100129014201

Fatkärra är lätt att hantera och kan "docka" till ett 200 lit fat utan att fatet behöver tiltas. Fatkärra i plast är ett praktiskt redskap vid transport av ett fat men tillåter också tappning till mindre kärl. Lätt att docka fatet till kärran, förflyttas med fatet liggande som på bilderna.



Art.nr 100129014309

Fatvagnen som passar ett 200 liters fat är tillverkad av stöttålig polyetenplast med 4st hjul där 2 är låsbara. Fatvagnen finns med och utan handtag.



Art.nr 100129014313

Dunkvagnen är en mångsidig transportkärra som är tillverkad av stöttålig polyetenplast med fyra stycken hjul. Två hjul är låsbara.



Art.nr 100129014312

Fatvagn 2x200 har 2 svängbara och låsbara hjul, 2 hjul är fasta. Fatvagnen är lätt att manövrera även med full vikt. Max belastning är hela 800 kg!

Sumpen har ett galvaniserat däck som faten står på. Däcket är så brett att även om du har pumpar monterade i faten så kommer dropp från dessa att hamna i sumpen.

Specifikationer;	Art.nr	Dimension	Vikt	Sump	Max belastning
Fatkärra	100129014201	L160 x B74 x H64 cm	44 kg	230 lit	300 kg
Fatkärra 2x200 lit fat	100129014312	L152 x B86 cm	60 kg	220 lit	800 kg
Fatvagn PE	100129014308	72 x 72 x 26 cm	30	14,0	300 kg
Fatvagn PE med handtag	100129014309	72 x 72 x 99 cm	30	15,5	300 kg
Dunkvagn PE	100129014313	90 x 70 x 98 cm	100	18	100 kg



## Chemopallar utförda i 100% specialplast för aggressiva kemikalier.



Art.nr 1001290146936



Art.nr 1001290147288



Art.nr 1001290146939

CHEMO HR-Kempallar är tillverkade i speciell plast som har extremt hög kemikalieresistens, dessutom utrustar vi dessa med en FRP gallerdurk av syntetharts.

Specifikationer;	Art.nr	Dimension LxBxH	Sump	Max belastning
CHEMO HR-Kempall 220/2 – med gallerdurk	1001290146936	128 x 85 x 29 cm	220 lit	800 kg
CHEMO HR-Kempall 220/3 – med gallerdurk	1001290147288	188 x 85 x 20 cm	320 lit	1200 kg
CHEMO HR-Kempall 220/4 – med gallerdurk	1001290146939	128 x 128 x 20 cm	320 lit	1300 kg

## Chemopallar och hyllor för burkar, dunkar och olika typer av fat.



Art.nr 1001290147717  
**Invallninglåda 65 med gallerdurk i VFZ**  
l x b x h cm  
82 x 42 x 24  
Sump 82 liter



Art.nr 1001290145114+1001290145112  
**Invallninglåda 150 med pallhållare för EUR pall**  
l x b x h cm  
120 x 80 x 16,5  
Sump 150 liter



Art.nr 1001290146875  
**Invallninglåda 220/2 med gallerdurk i VFZ**  
l x b x h cm  
128 x 85 x 29  
Sump 240 liter



Art.nr 1001290145113  
**Invallninglåda 150**  
l x b x h cm  
120 x 80 x 16,5  
Sump 150 liter



Art.nr 1001290147083  
**Invallninglåda 220/3 med gallerdurk i VFZ**  
l x b x h cm  
188 x 85 x 20  
Sump 300 liter

## Fatdäck ökar säkerheten vid hantering av fat, dessutom skapar de en ren miljö.



Våra fatdäck som är tillverkade i PE-plast är som standard utrustade med en löstagbar plastpall.



En ramp i PE-plast som passar till våra 15 cm höga fatdäck.



Denna fatpall passar för upp till 3 stycken 200 lit fat. Finns även med praktisk ställning och regnskydd för utomhus placering.



## Fatvaggor i plast.



Ovan våra raka 4-fatsdäck som place-rats utmed en vägg.



För att öka invallningsvolymen kan man koppla ihop fatdäcken med en fatgenomgång i plast.

Specifikationer;	Art.nr	Dimension	Sump
Fatdäck 2 fat	100129014202	126 x B86 x H15 cm	150 lit
Fatdäck 4 fat	100129014204	166 x B126 x H15 cm	300 lit
Fatdäck 4 fat Rakt	10012901420410	262 x B89 x H15 cm	300 lit
Fatgenomgång till fatdäck	100129014213		
Ramp Fatdäck PE	100129014212	650 x B800 x H16,5 cm	
FATPALL 3	100129014493	179 x 78 x 24	240 lit
FATPALL 3 huv	100129014493C	79 x 78 x 195	240 lit
FATVAGGA 1	1001290147988	63x50x40	
FATVAGGA 2	1001290147989	125x58x40	

## FATLYFTARE för handtering av liggande och stående fat



Bland våra nyheter finns två fatlyftare som lyfter ett liggande eller ett stående 200 liters fat.



Specifikationer;	Art.nr	Vikt kg	Lyfter dim.	Maxvikt
FATLYFTARE för stående fat	1001290197711	7 kg	56 - 60 cm	400 kg
FATLYFTARE för liggande fat	1001290197712	8 kg	76 - 91 cm	360 kg

## RAMP till våra fatdäck

Specifikation;	Art.nr	Maxvikt
RAMP	100129014212	300 kg



Nu finns det en ramp i PE-plast som passar till våra 15 cm höga fatdäck. De aktuella fatdäcken har artikkelnummer 9014-202, 9014-204 och 9014-20410.





## KOMBIDÄCK och IBC-DÄCK med praktiska tilbehør



KOMBIDÄCK med huv och spilltråg



IBC-DÄCK med spilltråg



IBC-DÄCK 1 med huv och spilltråg



SPILLTRÅG till IBC-DÄCK 1

Våra kombi- och IBC-däck har fått en praktisk ställning som är lätt att montera. Taket bärs upp av en stark plastpanel.

Nu finns även spilltråg vid avtappning från bottenventilen. Tråget rymmer drygt 80 ltr.

**Användelsesområde:** Vårt Kombi-däck har plats för 8 fat eller två IBC-containers.

Specifikationer;	Art.nr	Dimension LxBxH cm	Sump lit	Vikt kg	Max belastning
KOMBIDÄCK	100129014498	256 x 135 x 221	1140	156	
SPILLTRÅG till kombodäck	100129014498-T	53 x 55 x 56	86	8,5	
IBC-Däck 1	100129014208	76 x 135 x 71	1100	156	1500

## Brandskåp med brandskydd i 30 och 90 minuter.

Våra säkerhetsskåp för lagring av brandfarliga vätskor har ett brandskydd mellan 30 och 90 minuter. Skåpen är tillverkade för att möta European Standard EN 14470-1.

### Några detaljer:

- Ställbara fötter som kan justeras från insidan.
- Skåpen har anslutning för ventilation samt utsug på varje plan.
- Automatik som håller dörrarna öppna och som har termosäkring vilken stänger dörrarna i händelse av brand.
- Uppsamlingsump vid golvet med perforerat lock.
- Pulverlackerad plåt i skåpen.
- Skåpen är CE märkta.



6/20-FWF30



12/20-FWF90



11/6-FWF30

Specifikation	Art.nr.	Mått i cm Utvändigt L x B x H cm (Invändigt)	Färg dörr	Vikt kg
Säkerhetsskåp 12/20-FWF30	1001290198055	119,5 x 59,5 x 196 (107,5 x 51,5 x 160)	RAL7035	226
Säkerhetsskåp 12/20-FWF90	1001290198056	119,5 x 59,5 x 195,5 (109,9 x 44,6 x 183)	RAL1018	469
Säkerhetsskåp 6/20-FWF30	1001290198057	59,5 x 59,5 x 196 (47,5 x 51,5 x 160)	RAL7035	147
Säkerhetsskåp 6/20-FWF90	1001290198058	59,5 x 59,5 x 195,5 (49,9 x 44,6 x 183)	RAL1018	286
Säkerhetsskåp 11/6-FWF30	1001290198059	110 x 55 x 63,5 (98 x 47 x 37,5)	RAL7035	97
Säkerhetsskåp 11/6-FWF90	1001290198060	110 x 59,5 x 60 (100,3 x 46,3 x 48)	RAL 1018	206





# 8.0

# Andre Mento

# produkter

8.1	Oilfield Supply	3
8.2	Hoses/Flowline	4
8.3	Valves	7

## Oilfield Supply Management



**Mento offer our customers one center of service for their total needs. We simplify purchase and logistics by reducing the number of suppliers and offers a more cost effective operation.**

- **More than 30 years of experience as oilfield supplier**
- **Total supplier in existing and new projects**
- **Several locations in Norway**

<p><b>MENTO</b> www.mento.no</p>	<p><b>Oilfield Supply</b> Your Partner in Oilfield Supply Solutions</p>	 <p>COMPLETE THREE MODULE For Pumps Originally Equipped With One-Peice Valve- Over-Valve Design</p> <p>IMPROVED Valve Cover Design For Existing OEM Modules</p>	 <p>P-QUIP</p> <p>"KWIK CARTRIDGE" WASHPIPE SYSTEM</p>
 <p>GO YELLOW WITH JET-LUBE</p>			

## Your partner in Oilfield Supply

- **We can handle sourcing and purchasing for Offshore customers.**
- **We have a long track record doing this for several customers.**
- **We have nominated personnel with long experience within the "product range".**
- **Ask us for an agreement.**
- **Try us and reduce your number of suppliers.**





Choke and Kill hose assembled  
with lifting collar, safety clamp  
and safety chain



Floating Supply Hoses



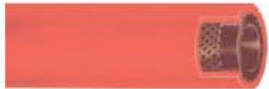
Anson DB series Plug Valve  
Max wt. only 23 kg/50 lbs



## Air/Water Hoses



Blue Wingfoot Horizon Black 200



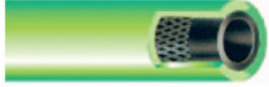
Horizon Red 200 Marine Exhaust



Universal 15 Yellow



Universal 20 Yellow



Horizon Green



Horizon Black 200



Marine Exhaust



T-391

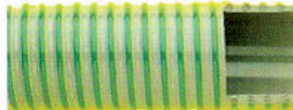


Radiator 3



Guardman Fire Hose

## PVC Hoses



Arizona Super Elastic



Armovin HNA



Oregon



Super Jamaica M Blue  
Medium



Helivyl 11206-D



America Oil

## Oil/Bulk Hoses



Rig Supply Soft Wall



Dry Cement Softwall



LKT - for transport of wearing  
granulate materials



Rig Supply Hard Wall



Potable Water Hard Wall



Oil Petrol G5600 -  
Multipurpose hose black  
smooth

## Special Hoses



Acetylene



Oxygene



Twin Welding Hose



Heaterhose G1000 Breath/Air  
Hose



Hydrasun Platfire



Thermoresistant Hose  
Firemaster Fire Rated Hose

## Steam/Chemical Hoses

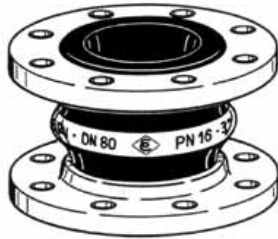


Gacord Type 58 - Steamhose steel  
wire reinforced according  
BS 5342 2A up to dia 51mm



Gacord Type 567 - EPDM Chemical hose  
according DIN 2823 and EN 12115

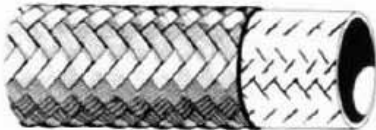
## Bellows/Steel Hoses/ Teflon Hoses



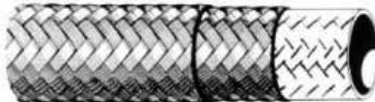
ELAFLEX Rubber Expansion  
Joints ERV



Tuboflex Steel Hoses



Parker Polyflex Teflon Hoses 2030T 1-layer



Parker Polyflex Teflon Hoses 2033T - 2-layer

## High Pressure Hoses/ Drilling Hoses



Polyflex 2440 D/N



Polyflex 2640 D/N



Polyflex 2330 N



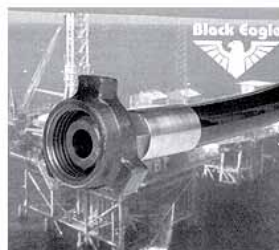
Waterblast 1000



Waterblast 1400



Ballwash W2



Polyflex Black Eagle



PhoenixBeattie  
High Pressure Drilling  
and Production Hoses

## Unions/Swivels/Valves



Anson Hammerlug Unions



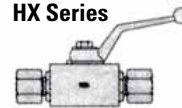
Anson Swivels



Ball Valve Safety Lock



High Pressure Ball Valve  
HX Series



High Pressure Ball Valves  
Ballvalve AISI 316  
Valstop Check Valve



Rotaflow LP Swivel Joints



Butterfly Valves

## Hose Clamps/Fittings/ Safety Equipments



King Combination  
Nipples



Boss - Ground  
Joint Seal



Whipcheck



Safety Stockings  
Shand Ferrules /  
Shand Stem



Dixon Hose Clamps



TSC - Two-bolt  
Saddle Clamps



Power PARI  
Hose Clamps



ABA Hose Clamps



Spiralina



Anson Hose Lifter



## Quick Couplings

### Mann-Tek Non Spill Coupling



### Safety Breakaway Couplings



### Snap-Tite Series H



### Snap-Tite Series 71



### Parker



### Hansen



### Camlocking



### Laux



### Firemaster



### Cejn Series 116



### Claw Couplings

## Hose Reels



### FPE Model SF



### FPE Model SS



### Automatic Hose Reels



### NOHA S82 Offshore



### S86 Titanium Offshore

## Straub Pipe Joints

UNCOMPROMISINGLY  
**SECURE**



### Straub Grip-L



### Straub Metal-Grip



### Straub-Flex



### Straub-Rep



### Straub Plast-Grip



### Straub Combi-Grip

### Metric Specification

### STRAUB-METAL-GRIP

Ø33.7 – 219.1 mm

Ø 2445. – 609.6 mm

## Hydraulic Hoses and Couplings



### Balflex R1AT



### Balflex Powerspir 4SH



### Balflex R7



### Balflex R2AT



### Balflex Ballmaster 4SP



### Balflex R8 thermoplastic hydraulic hose



### Balwash



### Balflex Powerspir R13



### Balflex R13



### JIC BSP NPT MM Special SAE Flanges

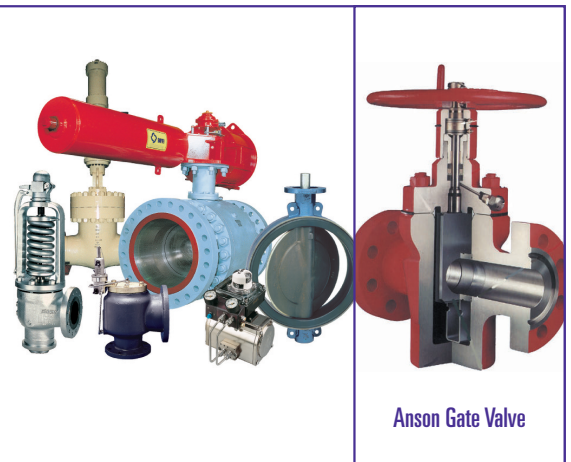
## 14. Pipe, Adapters, Fittings and Related Products



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- API Valves & Plug Valves: **ANSON**
- Pump Protection Valves: **NARVIK** **YARWAY**
- Pressure Safety Valves: **ANDERSON GREENWOOD CROSBY**
- Instrumentation Valves: **ANDERSON GREENWOOD INSTRUMENTATION PRODUCTS**



## Anson E-Type Through Conduit Gate Valve



The Anson E-Type Through Conduit Gate Valve has been developed to satisfy the need for a high quality, high specification valve which is reliable and reasonably priced. The E-Type Gate Valve makes full use of modern materials and manufacturing techniques. The Valve is robust, easy to maintain, conforms to International Design Requirements and Quality Programmes.



## Anson Mud Valves

Are solid gate, rising stem, gate valves with resilient seals. They are purpose made for mud, cement, fracturing and water service and are easy to operate and simple to maintain

### Specifications

- Designed specifically for abrasive and erosive use
- All valves have 17/4 PH stainless steel stems
- API.6A PSL 1, 2 and 3 available
- Gates can be supplied in nickelplated carbon steel, monel, aluminium / bronze or stainless steel
- Stainless or carbon steel inserts with nitrile or viton elastomer
- Factory pressure tested in accordance with API.6D OR API.6A
- Can be supplied with flanged end connections, hammer union or hub ends, threaded or butt weld
- Sour service models to nace MR-01-75
- Available with pressure ratings up to 7,500 PSI
- Full material traceability guaranteed
- Supplied with full certification at no extra charge

## Valves

### Keystone Butterfly Valve Figure 14 and 16 OptiSeal

Wafer and lugged version. The OptiSeal Figure 14 and 16 is a further development of previous, successful resilient seated valve designs from Keystone. The range incorporates several features enhancing the valve's lifetime and performance.

Pressure (bar)	10 – 16
End of line (bar)	6–10–16
Temperature (°C)	-40 +160
Sizes (mm)	40 – 300
Flange Accomodation	PN 6/10/16 ANSI 150 JIS 5K/10K



### Keystone Butterfly Valve Figure 16

Pressure (bar)	6—10
Temperature (°C)	-40 +160
Sizes (mm)	40 – 300
Flange Accomodation	PN 10/16 ANSI 150



### Keystone Butterfly Valve Figure 17

Pressure (bar)	10
Temperature (°C)	-40 +120
Sizes (mm)	380 – 800
Flange Accomodation	PN 10/16 ANSI 150



### Winn Hi-Seal, high performance butterfly valves

Hi-Seal, high performance butterfly valves offer efficient, bi-directional sealing across a wide spectrum of service conditions.



### Keystone Butterfly Valve Figure 38

Pressure (bar)	16
Temperature (°C)	-40 +120
Sizes (mm)	20 – 300
Flange Accomodation	PN 6/10/16 ANSI 150



### Keystone Butterfly Valve Figure 15

Pressure (bar)	10
Temperature (°C)	-40 +120
Sizes (mm)	350 – 800
Flange Accomodation	PN 10/16 ANSI 150 (except 700mm)



### Keystone Butterfly Valve Figure 55

Pressure (bar)	16
Temperature (°C)	-40 +160
Sizes (mm)	150 – 600
Flange Accomodation	PN 10/16 ANSI 150, ISO, JIS, BS, API



## Pneumatic Actuators and Accessoires

Tyco AVID Position Monitors  
Fig 79  
Fig 791B Namur Solenoid Valve  
Pneumatic positioner Fig 793





# MENTO

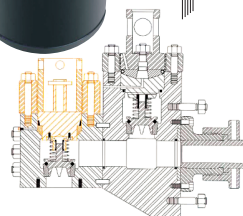
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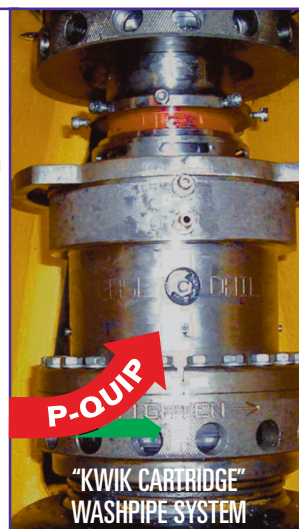
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For Pumps Originally Equipped  
With One-Peice Valve-  
Over-Valve Design



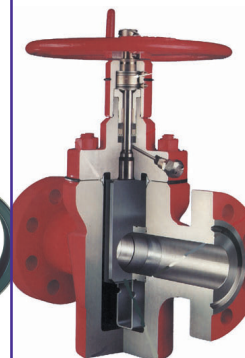
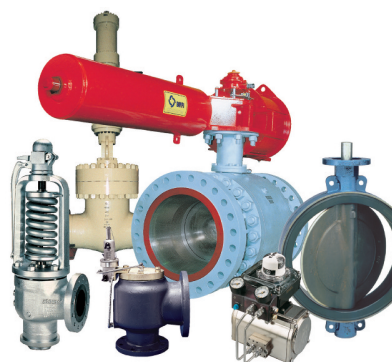
IMPROVED Valve Cover Design  
For Existing OEM Modules



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Anson Gate Valve

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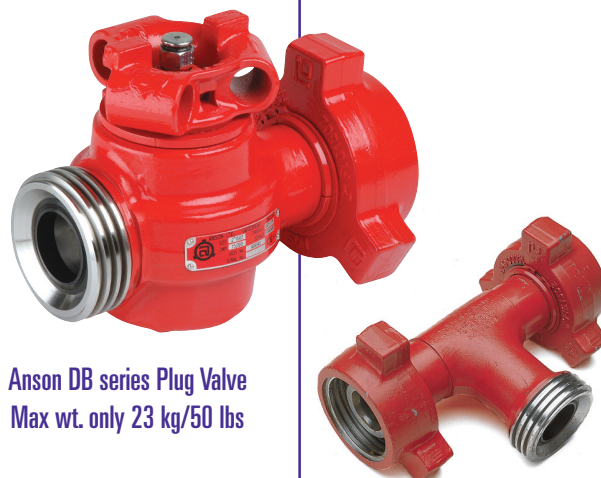
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with lifting collar, safety clamp  
and safety chain



Floating Supply Hoses



Anson DB series Plug Valve  
Max wt. only 23 kg/50 lbs

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